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**Procedures for commercial catch sampling of finfish and
shrimp in the southern Gulf of St. Lawrence (Fisheries and
Oceans Canada, Gulf Region)**

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Table of contents:

Abstract / Résumé	iv
1. Introduction.....	1
2. Background.....	1
3. Sampling procedures.....	3
3.1 Obtaining a Sample.....	3
3.2 Sample Processing	4
3.3 Completing the Sampling Forms – General.....	11
3.4 Completing the Sampling Forms – Length Frequenc.....	11
3.5 Completing the Sampling Forms – Ageing Material Record.....	16
4. Acknowledgments	18
5. Relevant References	19
6. Appendices:	
Appendix I: Contacts for obtaining information on landings and activity.....	20
Appendix II: Species specific sampling protocols.....	22
Appendix III: Sampling forms.....	38
Appendix IV: Sampling form information.....	40
Appendix V: Sampling form – Ageing Material Record.....	43
Appendix VI: Species codes, names and assessment mandate	44
Appendix VII: Community codes and names by province.....	45
Appendix VIII: Charts of community districts and fishing zones.....	56
Appendix IX: Abbreviations and codes for fishing gears.....	58
Appendix X: Total length conversion factors.....	60

ABSTRACT

This report is intended to provide a comprehensive description of protocols as well as technical guidance related to DFO's Gulf region commercial finfish and shrimp fisheries sampling program. In particular, it aims to provide all the necessary information required by both novice and experienced samplers to obtain high quality data. These data are used, among other things, to assess the stock status and exploitation potential of marine fish and shrimp in the southern Gulf of St. Lawrence.

RÉSUMÉ

Ce rapport a pour but de fournir une description complète des protocoles employés dans le cadre du programme d'échantillonnage de prises commerciales de poissons marins et de crevettes de la Région du Golfe du MPO. Des conseils techniques y sont aussi présentés. Plus précisément, ce rapport vise à fournir toutes les informations nécessaires aux nouveaux échantillonneurs ainsi que ceux d'expérience, afin de recueillir des données de la plus grande qualité possible. Ces données sont entre autre utilisée dans les évaluations de stocks de poissons marins et de crevettes dans le sud du Golfe du St. Laurent.

1.0 INTRODUCTION

The sampling of catches from commercial fisheries is crucial to understanding the demographic structure of the exploited component of fish populations. Among other things, information on the length, age and gender composition of catches is the cornerstone of quantitative stock assessments (e.g., Virtual Population Analysis, statistical catch-at-age). Standardized sampling protocols are therefore required to ensure the quality of these data.

This report is intended to provide a comprehensive description of protocols as well as technical guidance related to DFO's Gulf region commercial finfish and shrimp fisheries sampling program. In particular, it aims to provide all the necessary information required by both novice and experienced samplers to obtain high quality data. We begin by providing some background for DFO's Gulf Region port sampling program as well as general descriptions of the data collected. This is followed by general instructions on sampling individual fish, as well as detailed instructions for completing the data collection forms. We then provide the specific sampling requirements for each species covered by the Gulf Region port sampling program. The protocols and other information provided in this report are current to the date of publication. Interested readers should contact the Sampling Biologist, DFO Gulf Region, for any updates or modifications.

2.0 BACKGROUND

Large-scale sampling of commercial catches in the Northwest Atlantic was first implemented during the 1950s. In 1974, uniform protocols for commercial sampling were established by the International Commission for the Northwest Atlantic Fisheries (ICNAF) to ensure consistency among member countries. In order to optimize sampling efforts in the Gulf of St. Lawrence, a dedicated section was created in 1983 by what was then the Department of Fisheries and Oceans (now Fisheries and Oceans Canada - DFO) in Moncton, N.B. The following year, this mandate was split between two DFO regions, Gulf Fisheries Management (now called the Gulf region) and Quebec. Responsibility for sampling on the west-coast of Newfoundland was further

delegated from the Gulf Fisheries Management region to the Newfoundland region in 1994. Since then, the mandate for commercial sampling in the Gulf of St. Lawrence has remained split among the three regions: west-coast of Newfoundland (Newfoundland and Labrador region, coordinated out of St. John's, NL); Gulf-Maritime provinces (Gulf region, coordinated out of Moncton, NB); Quebec, including the Magdalen Islands (Quebec Region, coordinated out of Mont-Joli, QC).

Presently, the Gulf Region port sampling program covers all marine finfish fisheries, except tuna, as well as landings from the Gulf shrimp fishery made in the region. The most frequently sampled marine fish species are cod (*Gadus morhua*), herring (*Clupea harengus*), mackerel (*Scomber scombrus*), American plaice (*Hippoglossoides platessoides*), white hake (*Urophycis tenuis*), Atlantic halibut (*Hippoglossus hippoglossus*), winter flounder (*Pseudopleuronectes americanus*), witch flounder (*Glyptocephalus cynoglossus*) and yellowtail flounder (*Limanda ferruginea*), although haddock (*Melanogrammus aeglefinus*), Greenland halibut (*Reinhardtius hippoglossoides*), capelin (*Mallotus villosus*), spiny dogfish (*Squalus acanthias*) and redfish (*Sebastes* sp.) are occasionally also sampled. The anadromous gaspereau (*Alosa pseudoharengus*) was also sampled until 2005, at which time annual sampling was discontinued due to constraints on resources to process those samples. For finfish, samples consist of length frequencies and, additionally for most species, collections of either whole fish or just their otoliths for ageing. No collections of biological material are made for yellowtail or redfish and collection of winter flounder otoliths was discontinued in 2005. For the various flatfish species, spiny dogfish and white hake, the length frequencies are sampled by gender. Shrimp samples consist of an approximately 2 kg random sample of whole organisms that is processed in the laboratory by DFO's Quebec region.

Sampling intensity is generally established at the beginning of the fishing season by the port sampling coordinator in consultation with the various stock assessment biologists and is provided to the port sampling technicians. In general, approximately two or three samples are obtained for each 500 tonnes of fish landed of a given species. For Atlantic herring, one of these samples consists of a length frequency and sub-sample of whole fish, with the other two samples

consisting of length-frequencies only.

3.0 SAMPLING PROCEDURES

3.1 Obtaining a Sample

Fish harvesters, fish buyers and fish plant managers allow samplers to sample their catches on a voluntary basis only (i.e., they are not required by regulation to allow the sampling to occur). Maintaining a good working relationship with these fishery workers is therefore crucial to the success of the port sampling program. It is important that those concerned be made aware that the data collected are used only for scientific purposes and are kept strictly confidential.

Because only a small fraction of fishing trips are sampled with the intention of making inference to entire fisheries for each commercially exploited species, it is important that those trips be sampled at random. When planning the selection of vessels to sample, samplers should obtain information on the (anticipated) distribution of fishing effort across the various fishing ports. This information can come from several sources including lists of known historically active ports (provided in this report), DFO Fisheries Management both at regional headquarters and in sector offices, dockside monitoring companies, at-sea observer companies and fish buyers (see Appendix I for more details and for a list of contacts).

Once a fishing trip (vessel) has been selected, the sampler aims to obtain a random selection of 200-250 fish from that trip. If species sampling requirements have not been met because of scarcity of potential samples, catches consisting of fewer than 200 fish should be sampled. Fish can be obtained directly from the fish harvesters or the fish plants, as long as the catch of a given vessel has not been combined with catches from other vessels. In the case of samples obtained directly from fish harvesters, the sampler will make arrangements with the captain to obtain a pan of fish. If the catch is unsorted by size, the sampler may request that a crewman scoop up fish from the total catch, ensuring that they do not select fish by size. If the catch has been sorted at sea, a random sample, ideally of 200-250 fish, must be obtained from each size category

(occasionally called culls). In the case of fish obtained from fish plants, the sampler generally will make arrangements with the plant manager or fish buyer. In many fish plants, the fish is unloaded and transported by conveyor belt to the plant sorters, which in turn will be weighed and dumped into tubs. A sampler can select randomly various tubs. Again, when catches have been sorted into size categories, a sample is taken from each one.

Regardless of its source, catch information must be obtained in order to complete the sample. This includes the Canadian Fishing Vessel Number (CFVN) of the vessel that made the catch, the date, position and NAFO (North Atlantic Fisheries Organization) division fished, the total catch weight for the given species and the weight of each of the different catch size categories if sorting has occurred. Collecting these data may be time consuming. At times, the captain may be too busy with buyers or may have left the wharf before the sampler has completed the trip information. In those cases, the required information must be obtained at a later date.. Important additional anecdotal information may also be obtained and recorded by the sampler, such as prices paid to fishers and information related to factors influencing catch rates and fishing effort. This information is often useful to stock assessment biologists in interpreting catch statistics or in understanding causes of variations in fishing effort. Generally, such anecdotal information is summarized in short by-weekly activity reports produced by each sampler and made available to all concerned stock assessment biologists.

3.2 Sample Processing

Port samples of finfish generally consist of a length frequency and a sample of either ageing material (generally otoliths, but could also be scales or vertebrae) or whole fish. The former applies to all groundfish, whereas the latter applies to pelagic and anadromous fishes. In the case of shrimp, only a random sample of whole individuals is obtained. Sampling requirements vary among species and the species-specific details can be found in Appendix II. In the present section we provide only a general overview of the sampling procedure.

Most fish are measured in centimetres to either fork or total length (see Appendix II for details appropriate to each species). Herring is one exception, where the lobes of the tail are pinched together and a total length, in 0.5-cm intervals, is measured. All groundfish are measured on a measuring board in which the ruler has been positively offset by 0.5 cm (Fig. 1). Because of this offset, samplers need only record the first number that appears on the ruler beyond the fish's tail in order to obtain a measurement rounded to the nearest cm (integer). A smaller, non-offset, measuring board is used to measure species for which 0.5 cm (herring and mackerel) or 1 mm (gaspereau, capelin) increments are used. In this case, the sampler will round off the measurement; rounding either down or up, depending on the species sampled (see Appendix II).

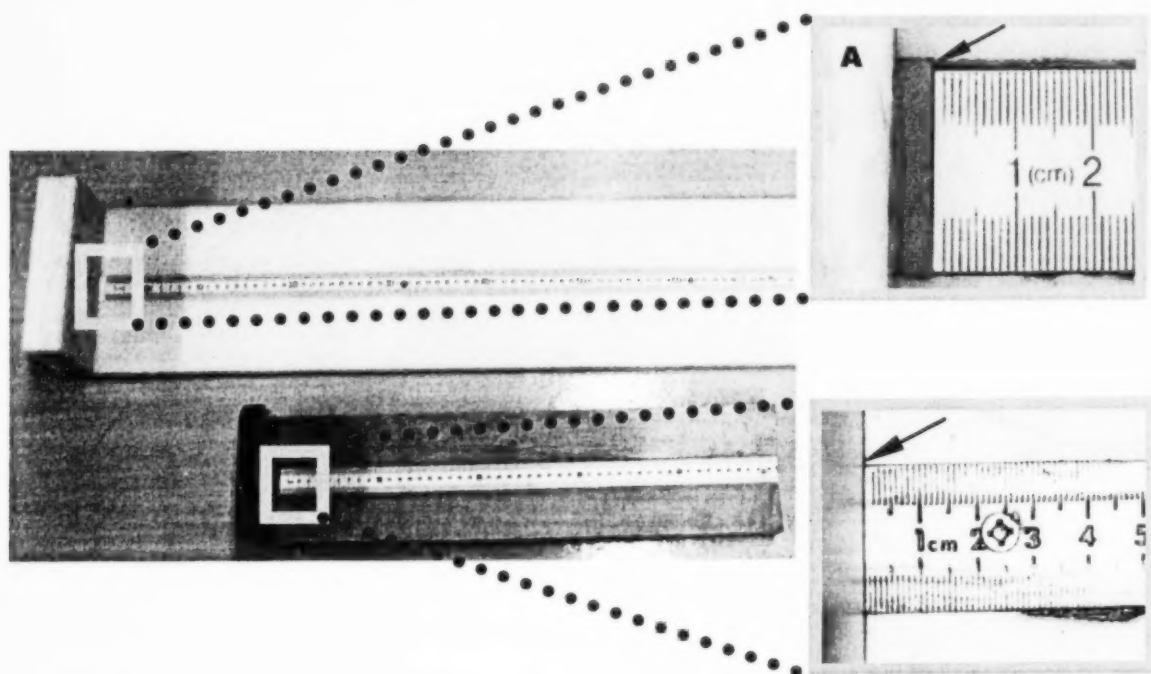


Figure 1. Photographs of offset (A) and non-offset (B) measuring boards used to measure marine fish.

The extraction of otoliths is generally achieved by cutting into the top of the fish's head, although some fish buyers will insist that otoliths be removed via the fish's throat. For roundfish, the former is achieved by gripping the head firmly, generally holding the eye sockets, and cutting the top of the skull from just behind the eyes at about 45 degrees, to about the back of the operculum (gill cover). Once the cut is made, the head is pried open to expose the otoliths, which are then removed using forceps (Fig. 2). The removal of otoliths via the throat is generally done on gutted cod or halibut and consists of locating and cutting the two orbits of the inner ear. (Figs. 3 & 4).

For flatfish, a cut perpendicular to the length of the fish is made between the eyes and the edge operculum. Then by bending the snout, one otolith is made visible, with the other located just underneath (Fig. 5). These otoliths are also removed using forceps.

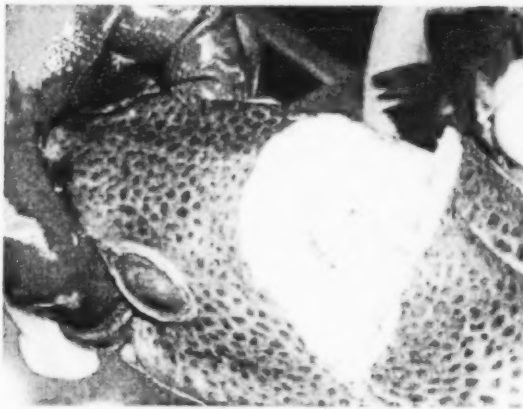
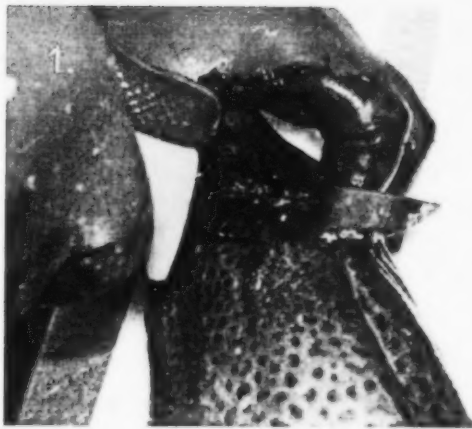


Figure 2. Photographs of the otolith removal procedure for roundfish, from top left to bottom right.

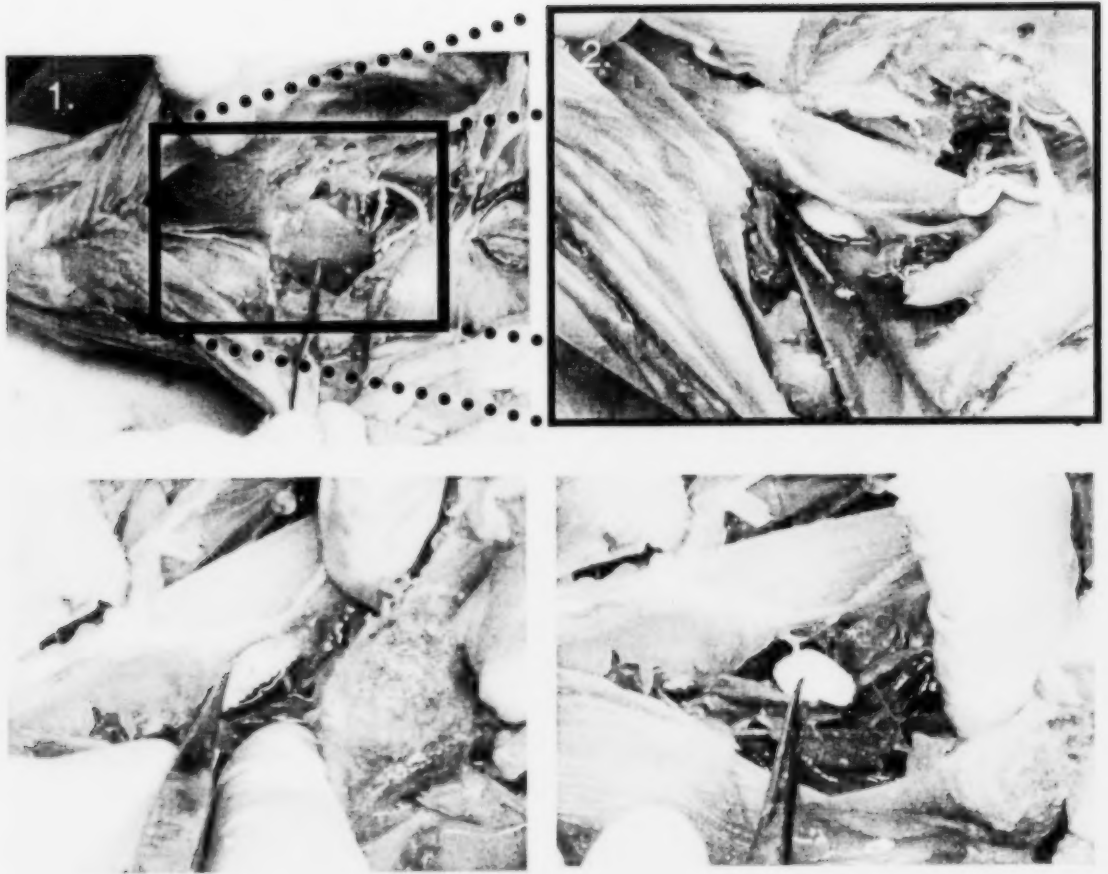


Figure 3. Photographs of otolith removal via the throat for roundfish, from top left to bottom right.

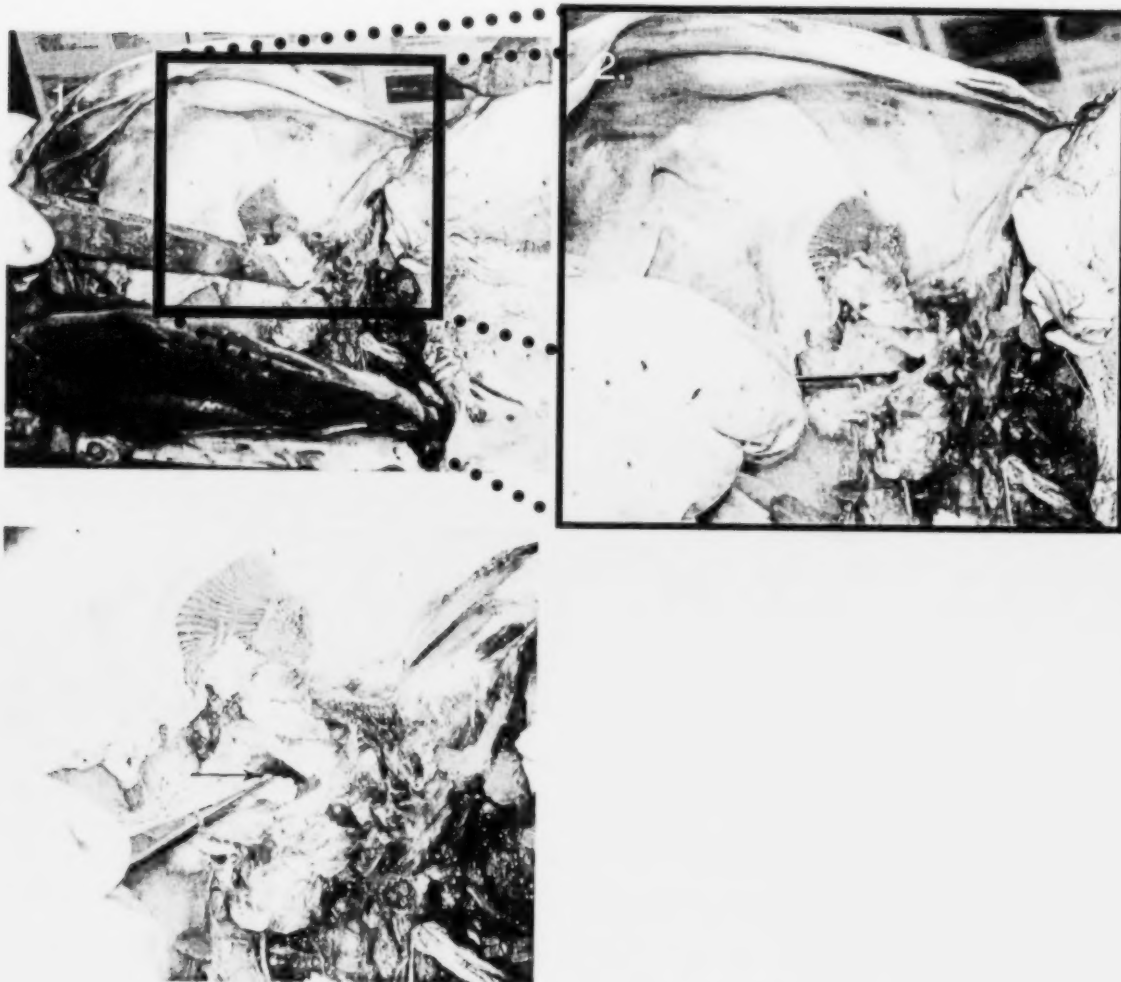


Figure 4. Photographs of otolith removal via the throat for halibut, from top left to bottom left.

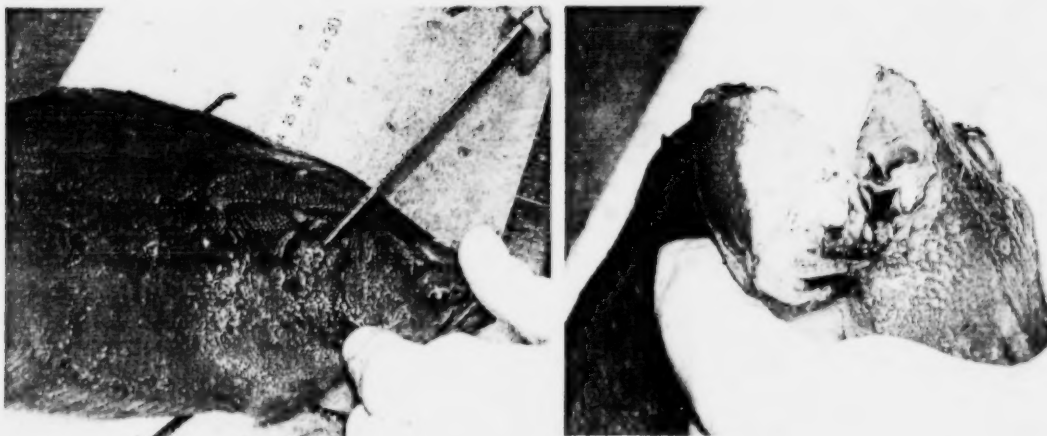


Figure 5. Photographs of the otolith removal procedure for flatfish

The otoliths of most species are either stored immediately in labelled envelopes as they are removed or temporarily placed in an otolith board (Fig 6). The only exception is American plaice, for which the otoliths are stored in small consecutively numbered glass vials containing a mixture of glycerine and thymol (for a 10L solution - 7.5 L glycerin added to 2.5 L of warm distilled water, with 9 g of thymol). When an otolith board or glass vials are used, the sampler must keep track of the length and sex of the fish from which the otolith were removed. When using a board, this can be achieved by both writing the length and sex directly on the board by the appropriate hole as otoliths are collected or by using a board with consecutively numbered depressions and recording these numbers on the length frequency sheet. Only the latter option is viable when glass vials are used.

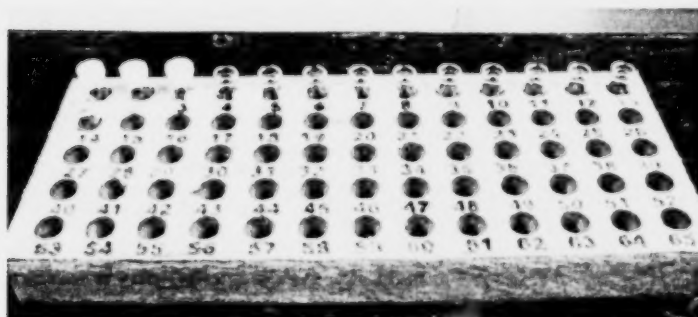


Figure 6. Otolith board used for flatfish otoliths

3.3 Completing the Sampling Forms - General

There are two forms completed by the sampler for each size category of fish from a given sample: a length frequency and an otolith form (see Appendices III, IV and V for examples). All forms are on waterproof paper and are formatted to facilitate later electronic data capture. There are certain protocols to follow when completing forms:

i) Legibility is clearly very important.

ii) When filling out the boxes, a single box is used for each number or letter and is always **right justified** with the exception of the fields for latitude (Lat.) and longitude (Long.) fished, which are left justified.

correct:

			5
--	--	--	---

incorrect:

5			
---	--	--	--

iii) Decimal points **NEVER** occupy a block.

correct:

	2	.	2	5
--	---	---	---	---

incorrect:

2	.	2	5
---	---	---	---

3.4 Completing the Sampling Forms – Length Frequency

See Appendix III for an example length-frequency form.

1- Samplers name in the space marked "Sampled by".

2- Both the common name and the corresponding numeric code (VI) of the species sampled is recorded, e.g.

Species: Atlantic cod

0	0	1	0
---	---	---	---

Species: Winter flounder

0	0	4	3
---	---	---	---

3- Sample numbers are created sequentially each year, for each fish species and by province. The code for province occurs in the third position (1- Nova Scotia; 2- New Brunswick; 3- Prince Edward Island), followed by the sequential sample number obtained that year for that species in the first two positions. For example, the 6th cod sample obtained on Prince Edward Island would be assigned number.

PEI=3 and sample=06:

0	3	0	6
---	---	---	---

4- District code for the landing port. This information is determined by the Canadian Fisheries Statistical District Boundaries (Appendices VII and VIII).

NS = 101-147

NB = 248-280

PEI = 382-392

QUE = 401-427

NFL = 501-553

5- The date when the sample was taken (Day, Month, and Year)

6- The NAFO unit area (Appendix VIII). If more than one unit area was fished, the one from which the majority of the catch was taken is recorded.

7- The geographical co-ordinates where the catch was made. Latitude and longitude are currently recorded in degrees, integer minutes & hundredths of minutes (no decimal is written but implied). These numbers are always left justified and rounded off to the nearest integer (ie., the last two boxes are filled with zeros if hundredths of minutes are not available). Previously, positions were recorded in Loran C (LC) readings. If more than one location was fished, the one from which the majority of the catch was taken is recorded.

i.e.,:

Lat. 45° 25' is coded

4	5	2	5	0	0
---	---	---	---	---	---

Long 62° 30' is coded

6	2	3	0	0	0
---	---	---	---	---	---

LC (X) 14498.0 is coded

1	4	4	9	8	0
---	---	---	---	---	---

LC (Y) 29998.5 is coded

2	9	9	9	8	5
---	---	---	---	---	---

8- The experiment type describing where the sample was processed:

Port Sampling:

9	9
---	---

Sea Sampling:

9	8
---	---

9- The name of the vessel sampled and it's Commercial Fishery Vessel Number

(**Remember right justification).

Vessel name: Miss GEM

CFVN No.: 159999

1	5	9	9	9	9
---	---	---	---	---	---

10- The gear name and its appropriate abbreviation (Appendix IX).

Scottish Seine:

	S	S	C
--	---	---	---

11- Mesh size in inches, with fractions expressed in decimals:

Mesh = $2\frac{1}{4}$ is coded 2.25:

	2.	2	5
--	----	---	---

not

	2	1	4
--	---	---	---

12- Gear depth, recorded in fathoms (1 ftn = 6 feet = 1.83 m). If not recorded by the fisher, enter the average depth of the fishing area.

13- The code for "landed form" is determined by the state of the fish landed (i.e., whole, eviscerated or "dressed", heads off, etc; see Appendix IV for list of codes).

14- Weights are recorded in pounds (1 kg = 2.205 lbs.). The weight registered here is the total weight of the landing for the species sampled. If an accurate weight is not available from the weigh master, an approximate weight is obtained from the vessel captain. Any doubts about the accuracy are indicated in the remark section.

15- The total sample weight in pounds. If the sample weight is unavailable, it is estimated (and duly noted in the remarks section). For example a pan of herring is estimated to weigh about 125 lbs, while a pan of cod would be 150 lbs.

16- The category code indicates the size range of the sample taken:

EXTRA SMALL	0	LARGE	3
SMALL	1	EXTRA LARGE	4
MEDIUM	2	UNSIZED (i.e., unsorted)	9

17- The total number of categories in the landing

e.g., if there are two size categories in the catch the format is as followed:

0	2
---	---

18- The total weight of the category sampled. This weight equals the total species catch weight (item 15, above) when the catch is not sorted by size.

19- If the sample taken is by gender (i.e., "sexed"), the length frequency will be divided in two sections, males on one side and females on the other. If the species are not sexed, the sample is completed in a single column. The appropriate names and corresponding codes are entered in this field (which are letters not numerical codes):

Male = M (**not = 1)
 Females = F (**not = 2)
 Not sexed = I

20- The field entitled "Group" is usually pre-coded and represent the stratification scheme for otolith or specimens collected. For example, at interval 1.0 cm, the code used is "1", indicating that one otolith or fish per cm grouping is to be collected. At the interval 0.5 cm,

the code "2" is used indicating two otoliths or fish per cm grouping are to be collected. All fish (except mackerel & herring) are measured to the nearest centimeter. Herring and mackerel are measured in half centimeter intervals.

21- The type of length measurement taken. This varies by species as described in the previous section. This code is extremely important to the rest of the sampling form.

22- The initial length range (in 1.0 cm or 0.5 cm intervals) will vary depending upon the species. For species such as herring, the sampler may expect a length range from 20-40 cm; therefore the tally should begin at 20 cm and end at 44.5cm. Species such as cod or white hake may have vast length ranges that may require two length frequency sheets (4 columns) or more. In this case, it is important that the same information be entered in the header of all sheets used for a sample. The numbers of fish measured in each length grouping are recorded in the total column.

e.g., Tally sheet:

Init. Lt.	Sex <u>NO</u> <input type="text" value="1"/> Group <input type="text" value="1"/>	Tot.
	Type of Measurement <input type="text" value="2"/>	
40		2
1		3
2		10
3		4

23- Below the tally section, supplemental information on the sample taken is registered such as the total number of fish measured, the number of otoliths collected and number of fish preserved. Any other information of potential value is also recorded in the "Remark section" (temperature, different areas fished, estimated weights, etc.).

3.5 Completing the Sampling Forms – Ageing Material Record

This form (Appendix V) is completed for all samples where ageing material (generally otoliths, but could also be scales or vertebrae) are collected. The sampler completes the header part of the form, which contains the same information as the length frequency form (species, sample number, port, date...etc). The sampler is only required to complete four fields of the form, denoted by an asterisk (*) (see below). The rest of the form is completed in the laboratory by the technicians responsible for ageing the fish and for keypunching the data into electronic format. Each field contains information regarding the otolith collected and are described as followed:

- *1- This field (generally called the card type) is coded 2 for Gulf region age material.
- *2- Each otolith is assigned a consecutive number for the sample, beginning with 001.
- *3- The sex (M, F or I) is recorded, followed by the length in centimetres of the fish from which the otoliths were taken.
- *4- Type of material specifies the "type of ageing material" collected, such as:
 - 1 – otoliths
 - 2 - scales
- 5- The number of annuli indicates the count of rings found while examining the ageing material (whole or a cross section).
- 6- The edge-type field is used to record a code describing the outer edge of the otolith:

Narrow hyaline (NH)	1	Wide opaque (WO)	4
Wide hyaline (WH)	2	Crystallized	5
Narrow opaque (NO)	3		

7- The check mark is a noticeable feature sometimes found on ageing material, either indicating certain important life history events (e.g., metamorphosis, maturity) or an effect of the storage chemical used. In both cases, the check marks are recorded to indicate difficulty in reading the age material. The field indicates positions of up to three annuli that contain check marks, or it serves as an indicator that the age material is "checky" i.e.: has more than 3 annuli observed having check marks. If a "checky" sample of age material is encountered, a value of "000" is assigned to the field "check mark positions". If no check marks are found, that field is left blank. The check mark position is composed of the following 3 subfields:

First Check Mark Position:

This subfield contains the number of annuli counted from the centre of the otolith or scale to where the first check marks lie.

Second Check Mark Position:

This subfield contains the number of annuli counted from the First Mark Position to where the second check marks lie. If there are no second check marks observed then this field is left blank.

Third Check Mark Position:

This subfield contains the number of annuli counted from the Second Check Mark Position to where the third check marks lie. If there are no third check marks observed then this field is left blank.

8- The otolith inventory number is assigned sequentially for each year and species by the technician responsible for ageing.

9- The field "Age Group" contains the number of years the specimen lived as determined by the ager using the number of annuli, the collection date and an arbitrary birthday of January 1. If no observation has been made this field is coded with 99.

10- The year-class field determines the year in which the fish was born, calculated by subtracting "Age" from "Year of sampling date". If no observation has been made this field is coded with 99.

11- The ager field indicates the person responsible for ageing the specimens. All ager are assigned specific codes.

Heather Clay	1
Yves Richard	2
Ted Currie	3
Isabelle Forest/D.Clay	4
Linda Currie	5
Kim Skeffington	6
Tom Hurlbut	7
Ross Tallman/D.Daigle	8
Jim Murphy/Luc Savoie	9

12- The last column entitled "Tag number" or "other comments" is used for any additional information on the age material.

4.0 ACKNOWLEDGEMENTS

We thank Janice Fennell and Yves Richard for their input to this report & Claude Nozères for providing the species pictures in Appendix II.

5. RELEVANT REFERENCES

The following are references that may prove useful to samplers:

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**Appendix I: Contacts for obtaining information on landings and activity
(current in 2007)**

Resource Management Division:

Moncton	(506) 851-7790 or 7749
Eastern New Brunswick Area	(506) 395-7718
Gulf Nova Scotia Area	(902) 863-5670 Ext. 2231
Prince Edward Island Area	(902) 566-7815

At sea observers:	Biorex (Caraquet)	506-727-2977
		506-727-7635
		toll free 1-877-298-0077

Dockside Monitoring Companies:

New-Brunswick:	Pèse-Pêche	506-336-1400
		506-336-1402

Gulf Nova Scotia:	Chéticamp Monitoring	902-224-1100
	Atlantic Catch Data Ltd.	902-485-4683

Prince Edward Island:	Island Weigh 95 Inc.	
	West:	902-853-7497
		902-882-3186
	East:	902-969-7494
		902-687-1257
	Hogan`s Monitoring:	902-882-2625

Common fish buyers (note that these can change on a yearly basis):

New Brunswick:

Baie Ste Anne Co-op Lte
Blue Cove Group Ltd (Anse Bleu)
Canadian Oceans Products Ltd (Anse Bleu)
Carapro (Caraquet)
D.J. Bait (Pointe Sapin)
Fruits de mer & Poisson Gilbert Godin (Ste-Marie-sur-Mer)
Produits Belle Baie (Caraquet)

Appendix I: cont'd

Gulf Nova-Scotia:

Victoria Co-op (Bay St. Lawrence)
Barrie Group (Cheticamp)
Pleasant Bay Fish (Cheticamp)
Cheticamp Packers (Cheticamp)
Poirier Fish Haven (Cheticamp)

Prince Edward Island:

Acadian Fishermen's Co-op (Abram-Village)
Alberton Fisheries Ltd. (Alberton)
Arsenault Fish Mart Inc. (Cape Egmont)
Bergayle Fisheries (Souris)
Mariner Seafoods (Montague)
Milligan's fisheries Ltd (Alberton)
North Lake Fisherman's Co-op Ltd (North Lake)
Ocean Choice PEI Inc. (Souris)
Royal Star Foods Ltd. (Tignish)

Useful Internet sites:

Dfo-Mpo Internet site

<http://www.glf.dfo-mpo.gc.ca/gp/index-e.php>

Fishing Area Maps:

<http://www.glf.dfo-mpo.gc.ca/fam-gpa/maps-cartes/index-e.php>

Quota Monitoring Gulf:

<http://www.glf.dfo-mpo.gc.ca/fam-gpa/rm-gr/qm-sc/index-e.php>

Tide Tables:

<http://www.lau.chs-shc.gc.ca/english/Canada.shtml>

Weather forecast:

http://weatheroffice.ec.gc.ca/marine/region_atlantic_e.html

APPENDIX II: Species specific sampling protocols:

Species: **Atlantic Cod** (*Gadus morhua*)

Species code: 0010

Fishing location: 4TVn

Landed form: Round, Dressed, Dressed head off, Other: Round & Bled

Sex: Not sexed (I)

Type of measure: Fork length

Length interval: 1.0 cm

Number to measure: 200-250

Number of otoliths: 1 otolith per 1cm grouping for 4TVn

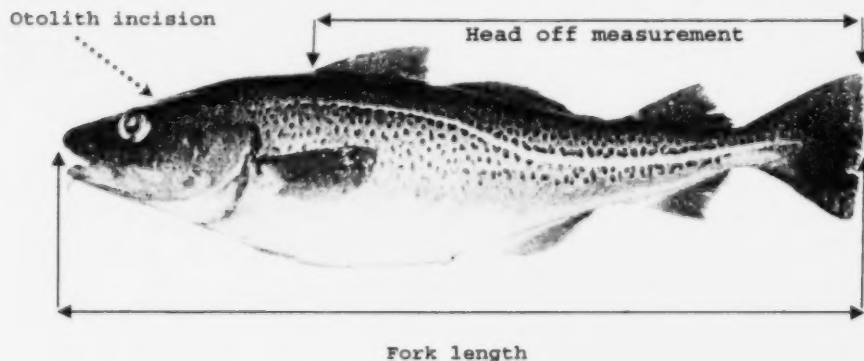
Notes: When the length-frequency is done with heads off, the sampler should convert all measurements to total lengths (See Appendix X for conversion factors).

Recent Fishing Season:

Mobile gear: Summer and fall

Fixed gear, **Group A** (fishers having their home ports in 4T3a, 4T3b, 4T4 a portion of 4T5 including the home ports of Tracadie and Tabusintac (N.B), 4T4 and 4T6.): mid-summer

Fixed gear, **Groups B** (fishers having their homeports in 4T2(b), remaining ports in 4T5 and 4T7.) and **C** (homeports in 4T1, 4T2(a), 4T8, 4T9(a), 4T9(b) and 4Vn): early autumn.



Species: **Haddock** (*Melanogrammus aeglefinus*)

Species code: 0011

Fishing location: 4RST

Landed form: Round, Dressed, Dressed head off

Sex: Not sexed (I)

Type of Measure: Fork length

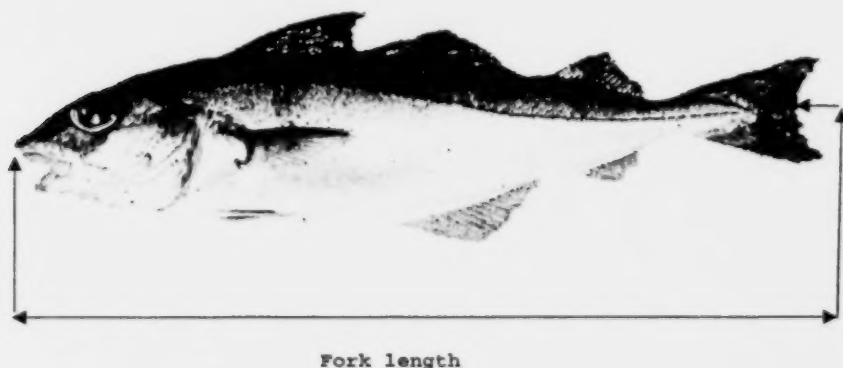
Length interval: 1.0 cm

Number to measure: 200-250

Number of otoliths: 1 otolith per 1cm grouping for 4T and 2 otoliths per 2cm grouping for 4RS

Notes: When the length-frequency is done with heads off, the sampler should convert all measurements to total lengths (See Appendix X for conversion factors).

Fishing Season: No directed fishery in the Gulf, by-catch fishery with other groundfish species (cod, witch).



Species: **White Hake** (*Urophycis tenuis*)

Species code: 0012

Fishing location: 4TVn

Landed form: Round, Dressed, Dressed head off

Sex: Sexed (M & F)

Type of Measure: Total length

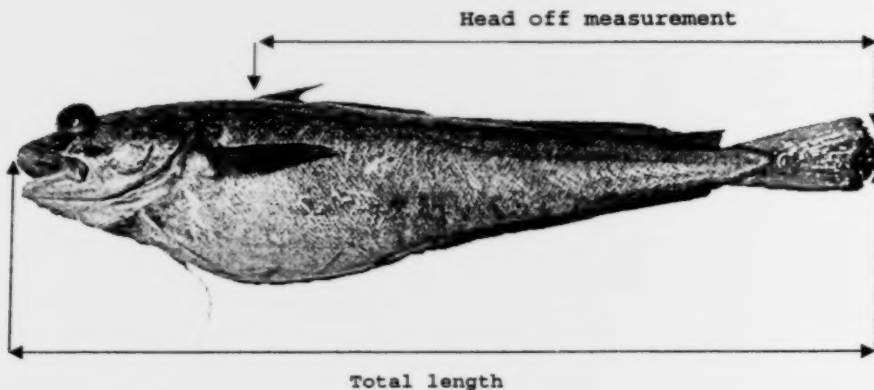
Length interval: 1.0 cm

Number to measure: 200-250

Number of otoliths: 1 otolith per 1cm grouping for each sex

Notes: When the length-frequency is done with heads off, the sampler should convert all measurements to total lengths (See Appendix X for conversion factors).

Fishing Season: Currently under moratorium. Caught only as by-catch fishery with other groundfish



Species: **Redfish** (*Sebaste* sp.)

Species code: 0023

Fishing location: 4RST

Landed form: Round

Sex: Sexed (M & F)

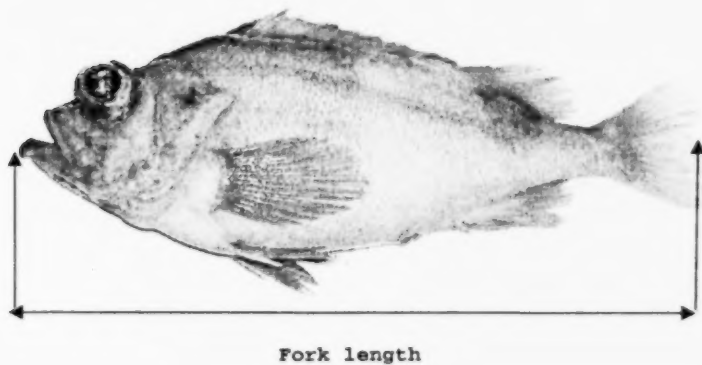
Type of Measure: Fork length

Length interval: 1.0 cm / Sex

Number to measure: 200-250

Number of otoliths: prior to 1994, 1 otolith per 1cm grouping; no requirement to collect otoliths since then

Fishing Season: June to October



Species: **Atlantic Halibut** (*Hippoglossus hippoglossus*)

Species code: 0030

Fishing location: 4RST

Landed form: Round, Dressed, Dressed head off, Other

Sex: Sexed (M & F) whenever possible or Not sexed (I)

Type of measure: Fork length

Length interval: 1.0 cm

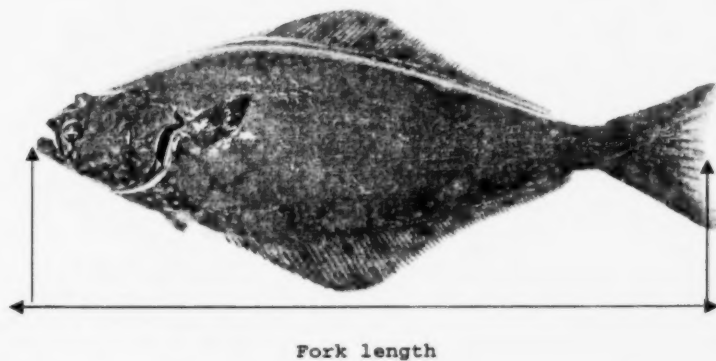
Number to measure: 200-250

Number of otoliths: 1 otolith per 1cm grouping (per sex, when not dressed)

Notes: When the fish is too large or longer than the measuring board a flank measurement is taken with a tape measure.

Fishing Season: Fixed gear: May - July

Mobile gear: by-catch fishery with other groundfish species



Species: **Greenland Halibut** (*Reinhardtius hippoglossoides*)

Species code: 0031

Fishing location: 4RST

Landed form: Round

Sex: Sexed (M & F)

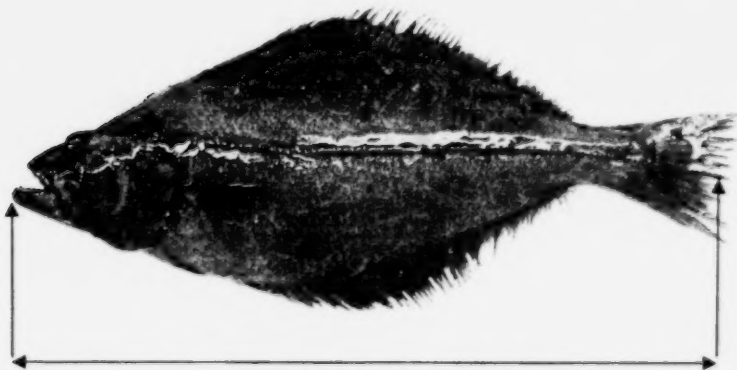
Type of Measure: Fork length

Length interval: 1.0 cm

Number to measure: 200-250

Number of otoliths: 1 otolith per 1cm grouping per sex. Otoliths are preserved dry in envelopes.

Fishing Season: By-catch fishery with other groundfish species



Fork length

Species: **American plaice** (*Hippoglossoides platessoides*)

Species code: 0040

Fishing location: 4RST

Landed form: Round, Bobtail

Sex: Sexed (M & F)

Type of Measure: Total length, Bobtail length

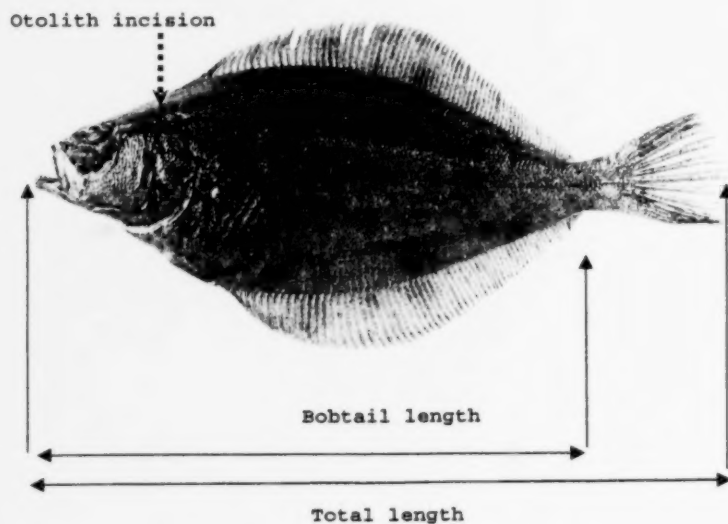
Length interval: 1.0 cm

Number to measure: 200-250

Number of otoliths: 1 otolith per 1cm grouping per sex. Otoliths are preserved in glycerine/thymol solution.

Notes: When the length-frequency is done with bobtail plaice, the sampler should convert all measurements to total lengths (See Appendix X for plaice conversion factors).

Fishing Season: From July to October



Species: **Witch flounder** (*Glyptocephalus cynoglossus*)

Species code: 0041

Fishing location: 4RST

Landed form: Round

Sex: Sexed (M & F)

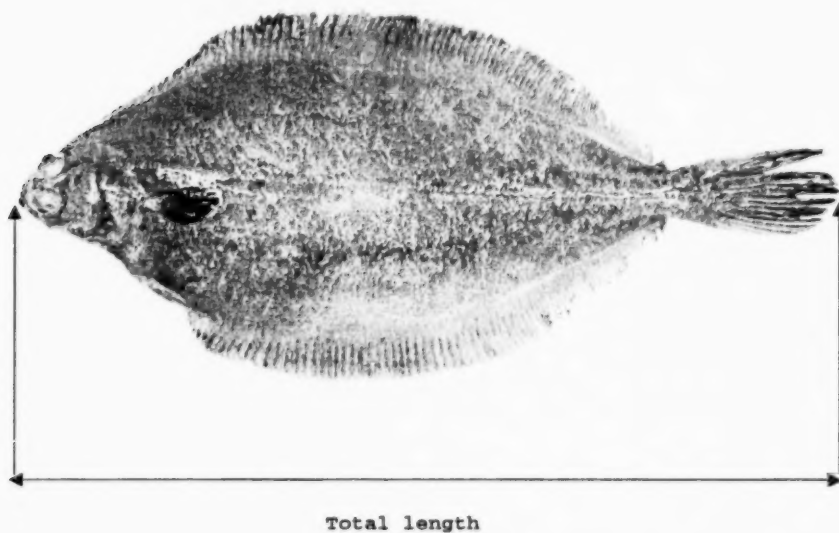
Type of Measure: Total length

Length interval: 1.0 cm

Number to measure: 200-250

Number of otoliths: 1 otolith per 1cm grouping per sex. Otoliths are preserved dry in envelopes.

Fishing Season: Some fishing in late spring (limited) but mostly in late fall (October)



Species: **Yellowtail flounder** (*Limanda ferruginea*)

Species code: 0042

Fishing location: 4T

Landed form: Round

Sex: Sexed (M & F)

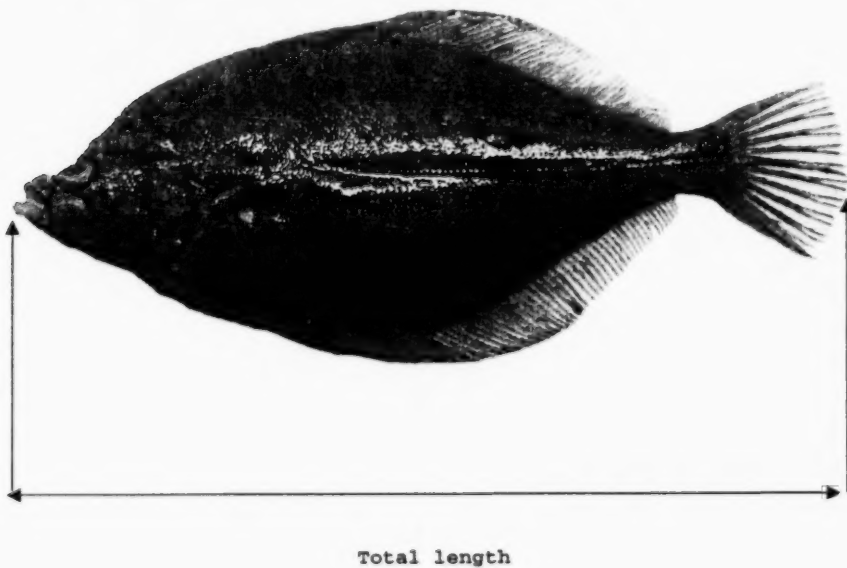
Type of Measure: Total length

Length interval: 1.0 cm

Number to measure: 200-250

Number of otoliths: 1 otolith per 1cm grouping per sex. Otoliths are preserved dry in envelopes.

Fishing Season: Active fishing in the Magdalen Island in the spring-summer but also as a by catch with other groundfish



Species: **Winter flounder** (*Pseudopleuronectes americanus*)

Species code: 0043

Fishing location: 4RST

Landed form: Round

Sex: Sexed (M & F)

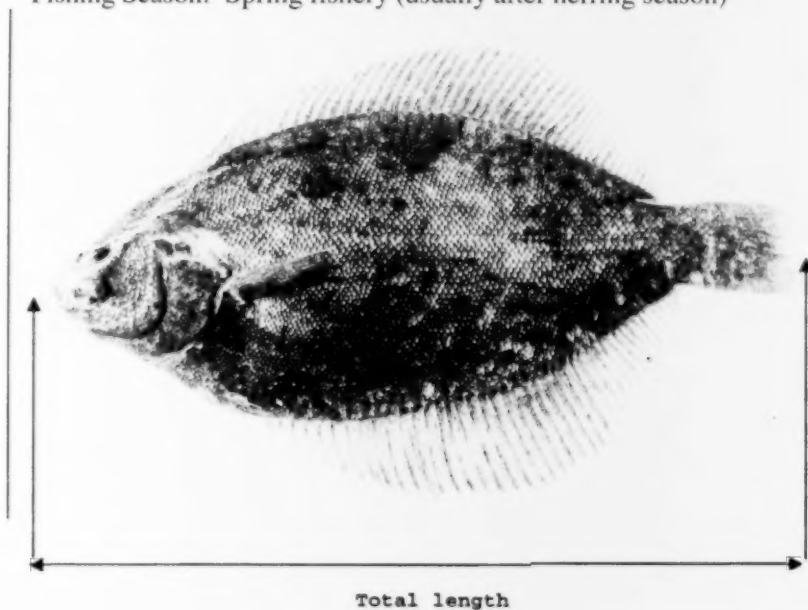
Type of Measure: Total length

Length interval: 1.0 cm

Number to measure: 200-250

Number of otoliths: 1 otolith per 1cm grouping per sex. Otoliths are preserved dry in envelopes (Otoliths not collected after year 2001).

Fishing Season: Spring fishery (usually after herring season)



Species: **Herring** (*Clupea harengus*)

Species code: 0060

Fishing location: 4T & 4RS3Pn

Landed form: Round

Sex: Not sexed (I)

Type of Measure: 4T fish: Total length with caudal fin lobes pinched - rounding down lengths.

i.e., Round down 30.4 = 30.0

4RS fish: Total length no pinching of caudal lobes - rounding off lengths.

i.e., Round off 30.4 = 30.5

Length interval: 0.5 cm

Number to measure: 200-250

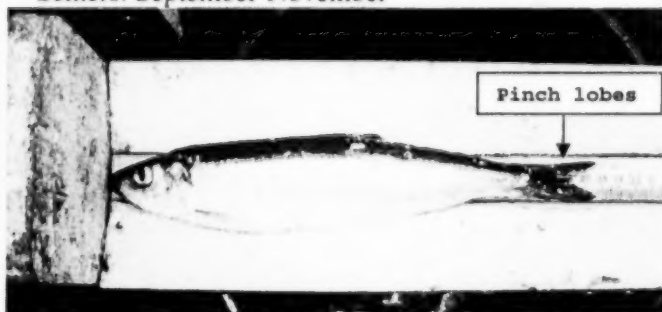
Number to preserve: 2 whole fish per 0.5cm grouping.

Measurement procedures: Herring are measured on a non-offset measuring board, with the snout abutting the headboard. Measurements are made by pinching the two lobes of the caudal fin and rounding down the length reading to the nearest 0.5 cm interval.

Fishing Season:

Gillnets: Spring (April-June) and fall fishery (August-October)

Seiners: September-November



Species: **Gaspereau** (*Alosa pseudoharengus*)

Species code: 0062

Fishing location: 4T

Landed form: Round

Sex: Not Sexed

Type of Measure: Fork length

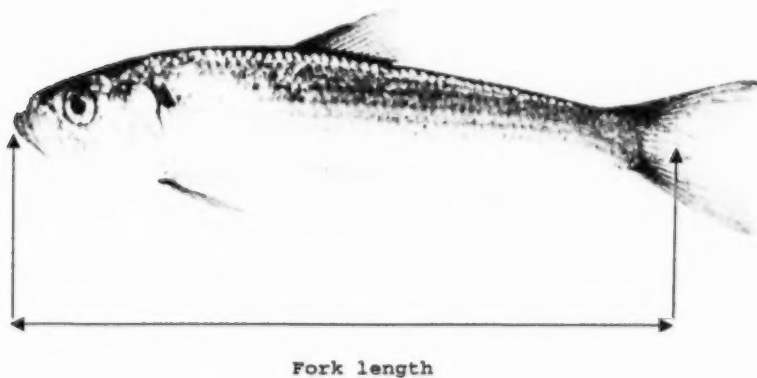
Length interval: 5 mm

Number to measure: 200-250 (Prior to 2006). Presently no requirement to sample.

Number to preserve: Currently not sampled. Previously, collected 3 whole fish per 5mm grouping and 5 fish per 5mm grouping for lengths ≥ 280 mm.

Measurement procedures: Gaspereau are measured on a non-offset measuring board, with the snout abutting the headboard, and taking the fork length reading, rounding off to the nearest 5mm grouping.

Fishing Season: Fishing activities in late spring (May-June)



Species: **Capelin** (*Mallotus villosus*)

Species code: 0064

Fishing location: 4RST

Landed form: Round

Sex: Sexed (M and F)

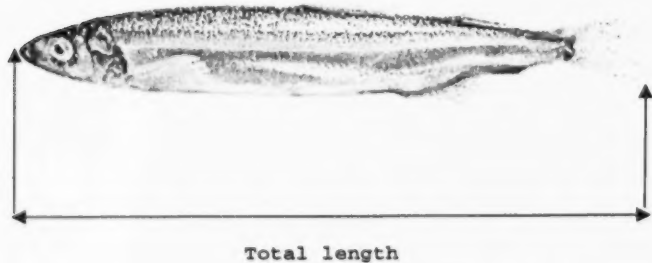
Type of Measure: Total length

Length interval: 1.0 mm

Number to measure: 200-250

Number to preserve: 2 whole fish per 5mm grouping per sex

Fishing Season: Early summer (June-July)



Species: **Mackerel** (*Scomber scombrus*)

Species code: 0070

Fishing location: 4RST

Landed form: Round

Sex: Not sexed (I)

Type of Measure: Fork length

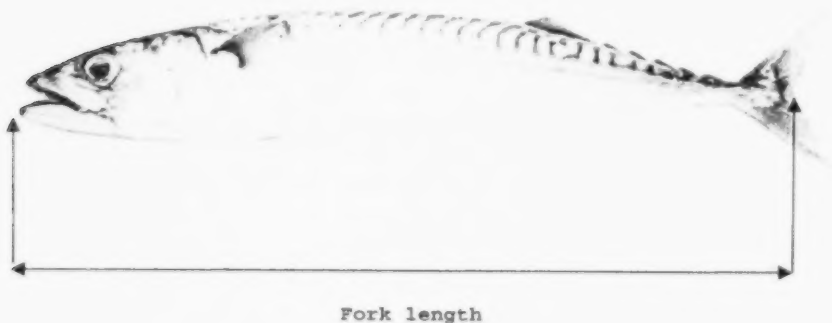
Length interval: 0.5 cm

Number to measure: 200-250

Number to preserve: 2 whole fish per 0.5cm grouping

Measurement procedures: Mackerel are measured on a non-offset measuring board, with the snout abutting the headboard. Measurements are made by reading the fork length and rounding it off to the nearest 0.5 cm.

Fishing Season: June-July and some activity in late fall (Cape-Breton)



Species: **Spiny Dogfish** (*Squalus acanthias*)

Species code: 0220

Fishing location: 4RST

Landed form: Round

Sex: Sexed (M & F)

Type of Measure: Total length

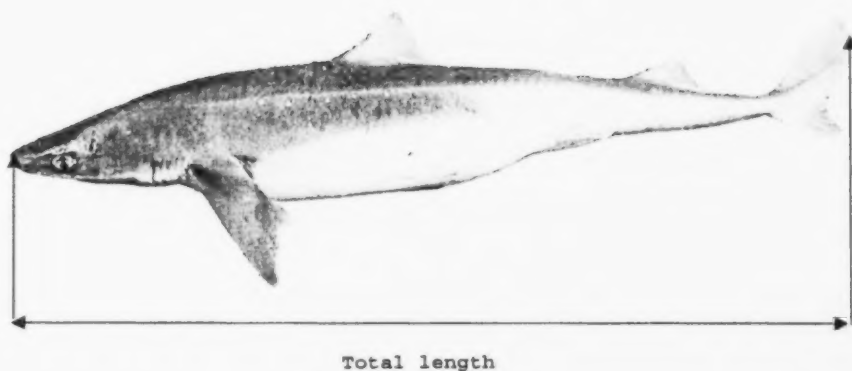
Length interval: 1.0 cm

Number to measure: 200-250

Number to preserve: None

Measurement procedures: Length frequency only, no age material collected.

Fishing Season: Once a directed summer and fall fishery on Prince Edouard Island.
Commonly found as a by-catch in Cape Breton groundfish fishery.



Species: **Shrimp** - Northern (*Pandalus borealis*)

Species code: 2211

Fishing location: North Anticosti, South Anticosti and Esquiman.

Landed form: Round

Sex: Not sexed (I)

Type of Measure: None

Length interval: None

Number to measure: None

Number to preserve: One pail (approximately 6 lbs. or 2-3 kg) is collected from the last set and frozen.

Measurement procedures: None in the field. Specimens are measured in the laboratory.

Fishing Season: April -October



Appendix III: Sampling forms – (1.0 cm length interval and 0.5 cm length interval form)

GULF REGION COMMERCIAL SAMPLING FORM										Page <input type="text"/> of <input type="text"/>	
Sampled by: <input type="text"/>		Species: <input type="text"/>		<input type="text"/>		Sample No <input type="text"/>		<input type="text"/>		<input type="text"/>	
District/Port: <input type="text"/>		Date <input type="text"/>		D <input type="text"/> A <input type="text"/> M <input type="text"/> O <input type="text"/> Y <input type="text"/> R <input type="text"/>		Fishing Loc. <input type="text"/>		<input type="text"/>		<input type="text"/>	
Latitude/Loran-C: <input type="text"/>		Longitude/Loran-C: <input type="text"/>		<input type="text"/>		Exp. Type <input type="text"/>		<input type="text"/>		<input type="text"/>	
Vessel Name: <input type="text"/>		C.F.V.N. <input type="text"/>		<input type="text"/>		Gear: <input type="text"/>		<input type="text"/>		<input type="text"/>	
Mesh Size (in.): <input type="text"/>		Gear Depth (ftm): <input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>	
Landed Form <input type="text"/>		Species Wt. (lbs.) <input type="text"/>		<input type="text"/>		Sample Wt. (lbs.) <input type="text"/>		<input type="text"/>		<input type="text"/>	
Cat Code <input type="text"/>		No. of Cat. <input type="text"/>		<input type="text"/>		Cat. Wt. (lbs) <input type="text"/>		<input type="text"/>		<input type="text"/>	
Init. Len.	Sex <input type="text"/>	Group <input type="text"/>	Type of Measurement <input type="text"/>	Tot.	Init. Len.	Sex <input type="text"/>	Group <input type="text"/>	Type of Measurement <input type="text"/>	Tot.		
0					0						
1					1						
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						
0					0						
1					1						
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						
0					0						
1					1						
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						
0					0						
1					1						
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						
0					0						
1					1						
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						
Number Measured - <input type="text"/> Number of Otolith Collected - <input type="text"/> Number of Fish Preserved - <input type="text"/> Remarks: <input type="text"/> <input type="text"/> <input type="text"/>											

Appendix III: cont'd

GULF REGION COMMERCIAL SAMPLING FORM										Page <input type="text"/> of <input type="text"/>	
Sampled by: <input type="text"/>		Species: <input type="text"/>				Sample No. <input type="text"/>					
District/Port: <input type="text"/>		Date		D A M O Y R		Fishing Loc. <input type="text"/>					
Latitude/Loran-C: <input type="text"/>		Longitude/Loran-C: <input type="text"/>				Exp. Type <input type="text"/>					
Vessel Name: <input type="text"/>		C.F.V.N. <input type="text"/>		Gear: <input type="text"/>							
Mesh Size (in.): <input type="text"/>		Gear Depth (ftm): <input type="text"/>									
Landed Form <input type="text"/>		Species Wt. (lbs.) <input type="text"/>		Sample Wt. (lbs.) <input type="text"/>							
Cat Code <input type="text"/>		No. of Cat. <input type="text"/>		Cat. Wt. (lbs) <input type="text"/>							

Init. Len.	Sex <input type="text"/> Group <input type="text"/>	Type of Measurement <input type="text"/>	Tot.	Init. Len.	Sex <input type="text"/> Group <input type="text"/>	Type of Measurement <input type="text"/>	Tot.
0.0				0.0			
0.5				0.5			
1.0				1.0			
1.5				1.5			
2.0				2.0			
2.5				2.5			
3.0				3.0			
3.5				3.5			
4.0				4.0			
4.5				4.5			
5.0				5.0			
5.5				5.5			
6.0				6.0			
6.5				6.5			
7.0				7.0			
7.5				7.5			
8.0				8.0			
8.5				8.5			
9.0				9.0			
9.5				9.5			
0.0				0.0			
0.5				0.5			
1.0				1.0			
1.5				1.5			
2.0				2.0			
2.5				2.5			
3.0				3.0			
3.5				3.5			
4.0				4.0			
4.5				4.5			
5.0				5.0			
5.5				5.5			
6.0				6.0			
6.5				6.5			
7.0				7.0			
7.5				7.5			
8.0				8.0			
8.5				8.5			
9.0				9.0			
9.5				9.5			

Number Measured - <input type="text"/>	Number of Otolith Collected - <input type="text"/>
Number of Fish Preserved - <input type="text"/>	
Remarks: 	

Appendix IV: Sampling form information

Sampled by/ : Sampler's name
 Echantillonné par : Nom de l'échantillonneur

Species/ : This field indicated the species name & code.
 Espèce : Cette case indique le nom et le code de l'espèce mesurée.

COD / MORUE	0010
HADDOCK / AIGLEFIN	0011
W. HAKE / MERLUCHE BLANCHE	0012
REDFISH / SEBASTE	0023
AM. PLAICE / PLIE CANADIENNE	0040
WITCH FL. / PLIE GRISE	0041
YELLOWTAIL / LIMANDE A QUEUE JAUNE	0042
WINTER FL. / PLIE ROUGE	0043
HERRING / HARENG	0060
GAPEREAU / ALEWIFE	0062
CAPELIN / CAPELAN	0064
MACKEREL / MAQUEREAU	0070
SHRIMP / CREVETTE	2211

Sample No./ : Each sampler assigns a unique number by species for each sample taken ,starting with his sampler ID by province.

No. de l'échantillon : L'échantillonneur donne un numéro unique par espèce pour chaque échantillon, débutant avec son code d'échantillonneur (assigné par province) .

New Brunswick / Nouveau Brunswick	0
Nova Scotia / Nouvelle Ecosse	1
Prince Edouard Island / Ile du Prince Edouard	3

District/ : This field indicates the landing port (see appendix VII **)

Districte : Cette case indique le port de débarquement (voir appendice VII**)

Date : Indicates the date when the sample was taken (Day, Month, Year).
 : Cette case indique la date d'échantillonnage (Jour, Mois, Année).

Fishing Loc./ : This field is the NAFO division codes (see appendix VIII **)

Lieu de pêche : Indique le code des divisions de l'OPANO (voir see appendice VIII **)

Lat./Loran C : Positions in latitude/longitude or LoranC reading of location of fishing site.

Long/Loran C : Ces données indiquent la position du site de pêche.

Exp. Type/ : Describes where or how the sample was executed.
 Type d'exp. : Le type d'expérience décrit où et comment l'échantillon fut échantillonné.

SEINERS / SEINEURS	96
OBSERVERS / OBSERVATEURS	97
SEA SAMPLING / ECHANT. EN MER	98
PORT SAMPLING / ECHANT. AU PORT	99

Vessel name/ : The name of the boat from which the sample is being collected.

Nom du bateau : Nom du bateau de pêche utilisé lors de la capture de l'espèce échantillonnée.

Appendix IV cont'd:

CFVN/ : Commercial Fishery Vessel Number
 No. BPC : Numéro du bateau de pêche commercial

Gear/ : Type of gear used to fish (see appendix VII)
 Engin : Code de l'engin de pêche utilisé (see appendice VII)

Mesh/ : The size in inches of the gear's mesh.
 Maillage : La longueur en pouce de la maille de l'engin.

Gear depth/ : Depth in fathoms of where the fishing gear was set (1
 ftm=6 feet=1.83 m).
 Profondeur de l'engin : Profondeur, en brasses du site de pêche où l'engin a
 été mouillé (1 brasses=6 pieds=1.83 m).

Landed form/ : Determines the state of the fish landed.
 Etat du débarquement : Indique l'état de l'espèce débarquée.

ROUND / ROND	01
DRESSED / EVISCERÉE	02
DRESSED HEAD OFF / EVISC. ÉTÉTÉ	03
BOBTAIL / SANS QUEUE	04
OTHER (specify in remark) / AUTRES (spécifier dans remarque)	09

Species weight/ : Total weight in pounds (lbs) of the landing for the
 species samples.
 Poids de l'espèce : Poids total en livres du débarquement de l'espèce
 échantillonnée.

Sample weight/ : Total weight in pounds (lbs.) of all individuals
 measured and marked on the form.
 Poids de l'échantillon : Poids total en livres (lbs.) des individus mesurés et
 notés sur le formulaire.

Cat. code/ : Gives the size range of the individuals in the sample.
 Code cat. : La catégorie détermine dans quel intervalle de taille
 se trouve les individus de l'échantillon.

EXTRA SMALL / TRÈS PETIT	0	LARGE / GROS	3
SMALL / PETIT	1	EXTRA LARGE / TRÈS GROS	4
MEDIUM / MOYEN	2	UNSIZED / NON TRILLÉ	9

No. of cat./ : Total number of categories in the landing
 No. de cat. : Nombre totale des catégories dans le débarquement.

Cat. weight / : Total weight in pounds (lbs) of the category for the
 species sampled.
 Pds de cat. : Poids en livres (lbs.) de la catégorie dans laquelle
 ont été prélevés les individus de l'espèce
 échantillonnée.

Sex / : Sex for the species measured.
 Sexe : Sexe de l'espèce mesurée.

MALE	M
FEMALE / FEMELLE	F
NOT SEXED / NON SEXÉ	I

Appendix IV: cont'd

Group/ : Precoded and represents the stratification scheme.
 Groupe : Precodée et détermine à quel intervalle les spécimens sont mesurés.

INTERVAL/ INTERVALLE	CODE
=====	=====
1.0	1 = 1 otolith or fish/cm group/1 otolithe ou poisson par cm
0.5	2 = 2 otoliths or fish/cm group/2 otolithes ou poissons par cm

Type de measure/ : Describes the type of length taken.
 Type de mesure : Décrit le type de longueur utilisée.

TOTAL LENGTH / LONGUEUR TOTALE	1
FORK LENGTH / LONGUEUR A LA FOURCHE	2
STANDARD LENGTH / LONGUEUR STANDARD	3
OTHER / AUTRE	9

Init. length / : Represents the length range for the species measured.
 Long. Initial : Indique les longueurs des poissons mesurés.

Total/ : Indicates the total number of individual measured for each length interval.
 Totale : Le nombre total d'individu mesuré pour chaque intervalle de longueur, par sexe (s'il y a lieu).

Number measured / : Total number of fish measured noted on the form.
 Nombre total meas. : Nombre total d'individus mesurés et notés sur le formulaire.

Number of otoliths/ : Total number of otolith collected from the fish on the form.
 Nombre d'otolithes : Nombre total d'otolithes prélevés de l'échantillon saisi.

No. fish preserved / : Total number of fish collected to be frozen in the sample.
 No. poissons congelés : Nombre total d'individus congelés dans l'échantillon.

Remarks/ : All remarks that you judge important to the fishery.
 Remarques : Commentaires reliés aux activités de la pêche.

Appendix V: Sampling form – Ageing Material Record

GULF REGION OTOLITH DATA FORM												Page of
Sampled by: _____		Species: _____		<div style="display: flex; justify-content: space-around;"> DAMONE </div>		Sample No. 						
District/Port: 		Date 		Fishing Loc. 								
Latitude/Loran-C: 				Longitude/Loran-C: 								
Vessel Name: _____		C.F.V.N. 		Gear: 								
Mesh Size (in.): 				Gear Depth (ftm): 								

Card Type	Otolith Number	Sex	Length (cm)	Type of Material	Number of Annuli	Edge type	Check mark	position	Otolith inventory number	Age Group	Year class	Age	Tag number or other comments
	1												
	2												
	3												
	4												
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Remarks:

Appendix VI: Species codes

Code	Species Name	Nom	Scientific Name
10	Atlantic cod	Morue	<i>Gadus morhua</i>
11	Haddock	Aiglefin	<i>Melanogrammus aeglefinus</i>
12	White hake	Merluce blanche	<i>Urophycis tenuis</i>
16	Pollock	Goberge	<i>Pollachius virens</i>
23	Redfish	Sébastes	<i>Sebastes sp</i>
30	Atlantic halibut	Flétan atlantique	<i>Hippoglossus hippoglossus</i>
31	Greenland halibut	Flétan du Groënland	<i>Reinhardtius hippoglossoides</i>
40	American plaice	Plie canadienne	<i>Hippoglossoides platessoides</i>
41	Witch flounder	Plie grise	<i>Glyptocephalus cynoglossus</i>
42	Yellowtail flounder	Limande à queue jaune	<i>Limanda ferrugina</i>
43	Winter flounder	Plie rouge	<i>Pseudopleuronectes americanus</i>
60	Herring	Hareng atlantique	<i>Clupea harengus</i>
62	Alewife	Gaspereau	<i>Alosa pseudoharengus</i>
63	Smelt	Éperlan d'amérique	<i>Osmerus mordax</i>
64	Capelin	Capelan	<i>Mallotus villosus</i>
70	Atlantic mackerel	Maquereau bleu	<i>Scomber scombrus</i>
220	Spiny dogfish	Aiguillat commun	<i>Squalus acanthias</i>
2211	Northern shrimp	Crevette nordique	<i>Pandalus borealis</i>
2526	Snow crab	Crabe des neiges	<i>Chionoecetes opilio</i>
2550	American lobster	Homard américain	<i>Homarus americanus</i>
4321	Sea scallop	Pétoncle géant	<i>Placopecten magellanicus</i>

Research mandate by species/regions:

Species - Zones:	Sampled by: (Region)	Research Mandate:
Atlantic cod-4T	Gulf/Maritimes/Quebec	Gulf
Atlantic cod-3Pn4RS	Quebec/ Newfoundland	Quebec
Haddock-4RST	Maritimes/Gulf	Maritimes
White hake-4RST	Gulf/Maritimes/Quebec	Gulf
Pollock-4RST	Maritimes/Gulf	Maritimes
Redfish-4RSTvn/3PN	Quebec/Maritimes/Newfoundland/Gulf	Quebec
Atlantic halibut-4RST	Quebec/Maritimes/Newfoundland/Gulf	Quebec
Greenland halibut-4RST	Quebec/Maritimes/Newfoundland/Gulf	Quebec
American plaice-4RST	Gulf/Quebec/Maritimes	Gulf
Witch flounder-4RST	Gulf/Maritimes/Quebec/Newfoundland	Gulf
Yellowtail flounder-4T	Gulf/Quebec	Gulf
Winter flounder-4RST	Gulf/Quebec	Gulf
Atlantic herring 4T	Gulf/Maritimes/Quebec	Gulf
Atlantic herring 4RS	Quebec/Maritimes/Newfoundland	Quebec
Alewife-4T	Gulf/Maritimes	Gulf
Smelt-4T	Gulf/Maritimes	Gulf
Capelin-4RST	Quebec/Newfoundland/Gulf/Maritimes	Quebec
Atlantic mackerel-4RST	Quebec/Newfoundland/Gulf/Maritimes	Quebec
Spiny dogfish-4RST	Maritimes /Quebec/Newfoundland/Gulf	Maritimes
Northern shrimp-4RST	Quebec/Newfoundland/Gulf	Quebec
Snow crab(S-Gulf)	Gulf/Quebec/Maritimes	Gulf
American lobster-4T	Gulf/Quebec/Maritimes	Gulf
Sea scallop- 4T	Gulf/Quebec/Maritimes	Gulf

Appendix VII: Community codes and names by province.

NOVA SCOTIA			
10101	SPY BAY	10217	ST. ROSE
10102	BAY ST. LAWRENCE	10218	TERRE NOIRE
10103	BEAR COVE	10219	WHALE COVE
10104	BLACK HEAD	10220	SOUTH WEST MARGAREE
10105	CAPE EGMONT	10221	BELLE MARCHE
10106	CAPE NORTH	10222	GILLISDALE
10107	CAPSTICK	10223	PLATEAU
10108	DINGWALL	10224	PETIT ETANG
10109	INGONISH	10225	SCOTSVILLE
10110	INGONISH BEACH	10226	UPPER MARGAREE
10111	INGONISH FERRY	10227	BELLE COTE
10112	MEAT COVE	10228	MARGAREE VALLEY
10113	MIDDLE HEAD	10229	CHETICAMP ISLAND
10114	NEIL'S HARBOUR	10230	MARGAREE
10115	NEW HAVEN	10231	CHETICAMP POINT
10116	NORTH BAY	10301	BROAD COVE MARSH
10117	NORTH INGONISH	10302	COLINDALE
10118	ROCKY BAY	10303	CRAIGMORE
10119	SMELT BROOK	10304	CREIGNISH
10120	SMOKY CAPE	10305	FIDDLE HEAD
10121	SOUTH INGONISH	10306	FINLAY POINT
10123	WHITE POINT	10307	HARBOUR VIEW
10124	BLACK POINT	10308	INVERNESS
10125	INGONISH CENTRE	10309	INVERSIDE
10126	SOUTH HARBOUR	10310	JUDIQUE
10127	SUGAR LOAF	10311	JUDIQUE NORTH
10128	NORTH HARBOUR	10312	JUDIQUE SOUTH
10129	INGONISH HARBOUR	10313	LITTLE JUDIQUE HARBOUR
10130	ST. MARGARET'S VILLAGE	10314	LITTLE JUDIQUE PONDS
10131	KINGS POINT	10315	LIVINGSTONE'S POND
10201	CHETICAMP	10316	LONG POINT
10202	BROAD COVE MARSH	10317	LOW POINT
10203	CAP LE MOINE	10318	MABOU
10204	CAPE ROUGE	10319	MABOU HARBOUR
10205	CHIMNEY CORNER	10320	MABOU MINES
10206	DUNVEGAN	10321	MALAGAWATCH
10207	FRIAR'S HEAD	10322	MARBLE MOUNTAIN
10208	GRAND ETANG	10323	MARYVILLE
10209	LA POINTE	10324	MURPHY'S POND
10210	MARGAREE BEACH	10325	NORTH EAST MABOU
10211	MARGAREE FORKS	10326	ORANGEDALE
10212	MARGAREE HARBOUR	10327	PORT BAN
10213	MARGAREE ISLAND	10328	PORT HASTINGS
10214	PLEASANT BAY	10329	PORT HAWKESBURY
10215	POINT CROSS	10330	PORT HOOD
10216	ST. JOSEPH DU MOINE	10331	PORT HOOD ISLAND

NOVA-SCOTIA cont'd :

10332	RIVER DENYS
10333	SIGHT POINT
10334	TROY
10335	WHYCOCOMAGH
10336	WEST MABOU HARBOUR
10337	VALLEY MILLS
10338	BIG HARBOUR
10339	JUDIQUE POND
10340	BIG HARBOUR ISLAND
10341	BAXTER'S COVE
10342	ALBA
10343	BANKS ROAD
10344	IRON MINES
10345	WEST BAY
10346	BROAD COVE BANKS
10347	ABERDEEN
10348	MCKAY'S POINT
10349	DEEPDALE
10350	LITTLE HARBOUR
10351	ROSS COVE
10401	BADDECK
10402	BIG BRAS D'OR
10403	BIRCH PLAINS
10404	BRITON COVE
10405	CAPE DAUPHIN
10406	ENGLISHTOWN
10407	FRENCH RIVER
10408	GREAT BRAS D'OR
10409	INDIAN BROOK
10410	JERSEY COVE
10411	LITTLE NARROWS
10412	LITTLE RIVER
10413	MUNROE BEACH
10414	MUNROE POINT
10415	NEW HARRIS
10416	NEW HARRIS FORKS
10417	NORTH RIVER CENTRE
10418	NORTH SHORE
10419	PATH END
10420	PLASTER
10421	RIVER BENNETT
10422	ROSS FERRY
10423	SCHOOL BAY
10424	SKIR DHU
10425	SOUTH COVE
10426	SOUTH HAVEN
10427	ST. ANDREW'S CHANNEL
10428	ST. ANN'S
10429	ST. ANN'S BAY

10430	WASHABUCK
10431	WRECK COVE
10432	BUCKLAW
10433	NORTH GUT
10434	NEW CAMPBELLTON
10435	KEMPT HEAD
10436	LOWER WASHABUCK
10437	ESTMERE
10438	MORRISON COVE
10439	IONA
10440	NYANZA
10441	RED POINT
10442	BOULARDERIE
10443	BIG HARBOUR
10444	OTTAWA BROOK
10445	TARBOT
10446	SEAL ISLAND
10447	GROVES POINT
10448	MCKINNONS HARBOUR
11001	BARRACHOIS
11002	BAY HEAD
11003	BRULE
11004	BRULE POINT
11005	TATAMAGOUCHE
11006	WALDEGROVE
11007	SAND POINT
11101	BAYVIEW
11102	CARIBOU/FERRY WHARF
11103	LOUISDALE
11104	MIDDLE RIVER
11105	PICTOU
11106	PICTOU ISLAND EAST
11107	RIVER JOHN
11108	SAND POINT
11109	THREE BROOKS
11110	SYLVESTER
11111	CAPE JOHN
11112	MACDONALD'S COVE
11113	TONEY RIVER
11114	CARRIBOU ISLAND
11115	SKINNER'S COVE
11116	LOGAN'S POINT
11117	BARKHOUSE
11118	MEADOWVILLE
11119	LYONS BROOK
11120	SCOTSBURN
11121	CARIBOU RIVER
11122	WATERSIDE
11123	MARSHVILLE

NOVA-SCOTIA cont'd :

11124	NARROW ENTRANCE
11125	PICTOU ISLAND WEST
11126	PICTOU HARBOUR
11227	SUNNY BRAE
11128	CARIBOU HARBOUR
11129	CARIBOU LITTLE ENTRANCE
11201	BIG ISLAND
11202	LISMORE
11203	LITTLE HARBOUR
11204	MERIGOMISH
11205	NEW GLASGOW
11206	PICTOU HARBOUR
11207	PICTOU LANDING
11208	TRENTON
11209	BAILEY'S BROOK
11210	GRANTON
11211	CHANCE HARBOUR
11212	BLACK POINT
11213	ARDNESS
11214	AVONDALE STATION
11215	FRASER'S MOUNTAIN
11216	KIRKMOUNT
11217	COALBURN
11218	STELLARTON
11219	WESTVILLE
11220	WOODBURN
11221	THORBURN
11222	AVONDALE
11223	ABERCROMBIE
11224	BARNEY'S RIVER
11225	EGERTON
11226	KINGS HEAD
11227	SUNNY BRAE
11228	SINCLAIR ISLAND
11301	ANTIGONISH
11302	ANTIGONISH HARBOUR
11303	ARISAIG
11304	BALLANTYNE'S COVE
11305	BAYFIELD
11306	CAPE JOHN
11307	EAST TRACADIE
11308	HAVRE BOUCHER
11309	LAKEVALE
11310	LINWOOD
11311	LIVINGSTONE'S COVE
11312	LONG POINT
11313	MALIGANT COVE
11314	MONK'S HEAD
11315	MORRISTOWN

11316	POMQUET
11317	SOUTHSIDE HARBOUR
11318	TRACADIE
11319	WEST TRACADIE
11320	BARRIOS BEACH
11321	CRIBBINS POINT
11322	OGDEN'S POND
11323	GEORGEVILLE
11324	CAPE GEORGE
11325	AFTON
11326	CAPE GEORGE PT.
11327	EAST HAVRE BOUCHER
11328	FRANKVILLE
11329	JAMES RIVER
11330	MORAR
11331	PINEVALE
11332	PLEASANT VALLEY
11333	SOUTH RIVER
11334	SUMMERSIDE
11335	WEST HAVRE BOUCHER
11336	WILLIAMS POINT
11337	DOCTORS BROOK
11338	HEATHERTON
11339	MONASTERY
11340	LANARK
11341	MARYVALE
11342	WEST PLEASANT VALLEY
11343	BRIERLY BROOK
11344	GREENWOLD
11345	WEST ARM TRACADIE
11346	OHIO
14501	LINDEN
14502	NORTHPORT
14503	PORT HOWE
14504	PORT PHILLIP
14505	PUGWASH
14506	PUGWASH POINT
14507	PUGHWASH RIVER
14508	RIVER PHILIP
14509	TIDNISH
14510	SHINIMICAS RIVER
14511	AMHERST SHORE
14512	AMHERST
14513	CALLINGWOOD
14514	CARRINGTON
14515	LORNEVILLE
14516	OXFORD
14517	SPRINGHILL
14518	WEST PUGWASH

NOVA-SCOTIA cont'd :

14520	PUGWASH JUNCTION
14521	ROCKLEY
14522	TIDNISH BRIDGE
14523	RIVERVIEW
14524	EAST LINDEN
14525	"FENWICK," N.S.
14601	EAST WALLACE
14602	FOX HARBOUR
14603	GULF SHORE
14604	MALAGASH
14605	MALAGASH POINT
14606	NORTH SHORE
14607	WALLACE
14608	WALLACE RIVER
14609	WALLACE BAY
14610	WALLACE BRIDGE
14611	MALAGASH STATION
14612	NORTH WALLACE
14613	WALLACE STATION

NEW-BRUNSWICK

6302	BLACK POINT
26303	CAMPBELTON
26304	CHARLO
26305	CHARLO RIVER
26306	CULLIGAN
26307	DALHOUSIE
26308	DALHOUSIE JUNCTION
26309	DURHAM CENTRE
26310	JACQUET RIVER
26311	MCLEOD SIDING
26312	NASH CREEK
26313	NEW MILLS
26314	POINT LA NIM
26315	BLACK LAND
26316	UPPER CHARLO
26317	DARLINGTON
26318	SEASIDE
26319	EEL RIVER CROSSING
26320	MAPLE GREEN
26321	EEL RIVER
26322	HERON ISLAND
26323	ATHOLVILLE
26324	ARMSTRONG BROOK
26325	BALMORAL
26326	EEL RIVER BAR

26327	RESTIGOUCHE RIVER
26328	KEDGWICK
26402	BASS RIVER
26403	BATHURST
26404	BELLEDUNE
26405	BELLEDUNE RIVER
26406	BERESFORD
26407	EAST BATHURST
26408	POINTE-VERTE
26409	NIGADOO
26410	PETIT-ROCHER
26411	TURGEON RIVER
26412	CARRON POINT
26413	PETIT ROCHER NORD
26414	ALLARDVILLE
26501	CARAQUET
26502	BLUE COVE
26503	CARAQUET BAY
26504	CLIFTON
26505	GRANDE-ANSE
26506	JANEVILLE
26507	LEBOUTHILLIER
26508	BAS CARAQUET
26509	MAISONNETTE
26510	MIDDLE CARAQUET

NEW-BRUNSWICK cont'd:

26511	MORAIS
26512	MORAIS OFFICE
26513	NEW BANDON
26514	POKESHAW
26515	POKESUDIE
26516	POKESUDIE ISLAND
26517	RIORDEN
26518	SALMON BEACH
26519	STONEHAVEN
26520	UPPER CARAQUET
26521	CAIN POINT
26522	POINT ROCHEUSE
26523	DUGAS
26524	ST. LEOLIN
26525	STE.ANNE DU BOCAGE
26526	CANOBIE
26527	BERTRAND
26528	BOIS BLANC
26529	PAQUETVILLE
26530	COTE POIRIER
26531	BATHURST
26601	LAMEQUE
26602	CAMPBELL RIVER
26603	CAP BATEAU
26604	CHAISSON
26605	COTEAU ROAD
26606	GRAND RUISSEAU
26607	PETITE-RIVIERE-DE-L'ILE
26608	PETIT SHIPPEGAN
26609	MISCOU
26610	MISCOU CENTRE
26611	MISCOU
26612	MISCOU ISLAND
26613	MISCOU LIGHT
26614	MISCOU POINT
26615	LITTLE LAMEQUE
26616	PIGEON HILL
26617	POINT ALEXANDER
26618	POINT CANOT
26619	ST.CECILE
26620	ST.MARIE
26621	ST.RAPHAEL SUR MER
26622	SAVOY LANDING
26623	UPPER LAMEQUE
26624	WILSON'S POINT
26625	BEAUDIN ROAD
26626	MISCOU PLAIN
26627	SHIPPEGAN ISLAND
26701	SHIPPEGAN

26702	EVANGELINE
26703	INKERMAN
26704	INKERMAN FERRY
26705	LANDRY
26706	LITTLE POKEMOUCHE
26707	POKEMOUCHE
26708	POKEMOUCHE JUNCTION
26709	POKEMOUCHE RIVER
26710	SHIPPEGAN GULLY
26711	ST.SIMON
26712	UPPER ST.SIMON
26713	WAUGH
26715	UPPER SHIPPEGAN
26716	UPPER POKEMOUCHE
26717	BLANCHARD SETTLEMENT
26718	CENTRE ST. SIMON
26719	POINTE BRULE
26720	BAIE DE PETIT POKEMOUCHE
26721	CHIASSE OFFICE
26801	BIG TRACADIE RIVER
26802	CREEK RIVER
26803	FOUR ROADS
26804	LEECH
26805	LITTLE TRACADIE
26806	LOSIER SETTLEMENT
26807	PONT LAFRANCE
26808	SHEILA
26809	SOCILE
26810	SOUTH RIVER
26811	TRACADIE
26812	TRACADIE BAY
26813	TRACADIE BEACH
26814	TRACADIE RIVER
26815	TROUT STREAM
26816	UPPER RIVER
26817	VAL COMEAU
26818	UPPER SHEILA
26819	ALDERWOOD
26820	SIX ROADS
26821	SAUMAREZ
26822	POINT LANDRY
26823	ST. ISIDORE
27001	BARRYVILLE
27002	BRANTVILLE
27003	BURNT CHURCH
27004	GRAND DUNE
27005	BAS NEGUAC
27006	MALPEQUE
27007	MALPEQUE BAY

NEW-BRUNSWICK cont'd:

27008	NEGUAC
27009	PONT GRAVE
27010	PORTAGE RIVER
27110	NAPAN RIVER
27111	NEWCASTLE
27112	OAK POINT
27113	POINT AU CARR
27114	NORDIN
27115	BUSHVILLE
27116	MIRAMICHI RIVER
27117	SOUTH NELSON
27118	FERRY ROAD
27119	EAST POINT
27120	CENTRE NAPAN
27121	OYSTER RIVER
27122	MILL BANK
27201	BOOM ROAD
27202	CASSILIS
27203	DERBY
27204	LOWER DERBY
27205	MILLERTON
27206	NELSON
27207	NORTH ESK BOOM
27208	NORTHWEST BRIDGE
27210	QUARRYVILLE
27211	RED BANK
27212	SOUTH ESK
27213	STRATHADAM
27214	WHITNEY
27215	DERBY JUNCTION
27216	FREDERICTON ROAD
27217	UPPER DERBY
27218	BRYENTON
27219	CHELMSFORD
27220	DOYLES BROOK
27221	KIRKWOOD
27222	MCKINLEYVILLE
27223	SUNNY CORNER
27224	WHITNEYVILLE
27225	BLACKVILLE
27226	DOAKTOWN
27301	BAIE STE.ANNE
27302	BAY DU VIN RIVER
27303	BLACK RIVER
27304	BLACK RIVER BRIDGE
27305	ESCUMINAC
27306	ESCUMINAC POINT
27307	HARDWICKE
27308	MANUELS

27309	POINT GARDINER
27310	MIRAMICHI
27311	EEL RIVER BRIDGE
27312	HEXHAM
27313	BRANSFIELD
27314	LOWER ESCUMINAC
27315	EGG ISLAND
27316	FOX ISLAND
27317	ROBICHAUD SPLIT
27318	ROGERSVILLE
27319	BULGARIA
27320	VICTORIA BRIDGE
27321	CAMEROUN BRIDGE
27501	EEL RIVER
27502	FONTAINE
27503	KOUCHIBOUGUAC
27504	LOGIECROFT
27505	POINT SAPIN
27506	ST. LOUIS
27507	CAP ST. LOUIS
27508	ST. LOUIS GULLY
27509	ST. OLIVIER
27510	PORTAGE RIVER
27512	CALLANDAR'S BEACH
27513	GUIMOND VILLAGE
27514	LOWER POINT SAPIN
27515	CLAIRE FONTAINE
27516	ST. IGNACE
27517	LOWER ST. LOUIS
27601	ALDOUANE
27602	BABINEAU
27603	CAP LUMIERE
27606	LITTLE ALDOUANE
27607	MAIN RIVER
27608	REXTON
27609	REXTON CAPE
27610	RICHIBUCTO
27611	RICHIBUCTO CAPE
27612	STE. ANNE DE KENT
27613	ST. NICHOLAS DE KENT
27614	BELLS MILLS
27615	PETER'S MILLS
27616	MUNDLEVILLE
27617	BIG COVE
27618	NICHOLAS RIVER
27619	CAISSIE VILLAGE
27620	STE. ANNE SHORE
27621	BASS RIVER
27622	RICHIBUCTO VILLAGE

NEW-BRUNSWICK cont'd:

27623	ST. CHARLES
27624	BEERSVILLE
27625	INDIAN ISLAND
27626	TARGETVILLE
27627	BULGARIA
27628	BROWNS YARD
27629	GRANDE ALDOUANE
27630	RIVIERE RICHIBUCTOU
27631	BEDEC
27632	EAST GALLOWAY
27701	BOUCTOUCHE
27702	BOUCTOUCHE BAY
27703	CAISSIE'S CAPE
27705	COCAGNE
27706	COCAGNE CAPE
27707	CORMIERVILLE
27708	GRAND DIGUE
27709	ST. EDOUARD
27710	ST. FRANCOIS
27711	STE. MARIE
27712	ST. THOMAS
27713	COCAGNE BAR
27714	BOUCTOUCHE RIVER
27715	COCAGNE RIVER
27716	BREAU VILLAGE
27717	COTE STE. ANNE/CHOCKPISH
27718	DIXON POINT
27719	ST. GREGOIRE
27720	COMEAU POINT
27722	NOTRE DAME
27723	ST. ANTOINE
27724	COCAGNE BRIDGE
27801	BARACHOIS
27803	CAPE BIMET
27804	CAP PELE
27805	CAPE BALD
27806	DUPUIS CORNER
27807	LOWER CAPE ALD
27808	POINTE DU CHENE
27809	ROBICHAUD
27810	SHEDIAC
27811	SHEDIAC BRIDGE
27812	ABOUJAGANE
27813	BOURGEOIS MILLS
27815	CORMIER VILLAGE
27818	ST. ANDRE
27819	PETITCODIAC
27820	DIEPPE
27821	ABOITEAU

27822	KOUCHIBOUGUAC RIVER
27901	ALMA
27902	HARVEY BANK
27903	NEW HORTON
27904	WATERSIDE
27905	HOPEWELL CAPE
27906	BRIDGEDALE
27907	CAPE ENRAGE
27908	EDGETT LANDING
27909	HILLSBOROUGH
27910	RIVERSIDE
27911	RIVERVIEW
27912	TWO RIVERS
27913	PETITCODIAC RIVER
28001	BAIE VERTE
28002	BAYFIELD
28003	CAPE TORMENTINE
28004	FOX CREEK
28005	FOX RIVER
28006	LEGER BROOK
28007	PETIT CAP
28008	LITTLE SHEMOGUE
28009	MELROSE
28010	MURRAY CORNER
28011	PEACOCK COVE
28012	PORT ELGIN
28013	SHEMOGUE
28014	UPPER CAPE
28015	BOTSFORD
28016	DUGUAYS POINT
28017	BAYSIDE
28018	AMOS POINT
28015	BOTSFORD
28016	DUGUAYS POINT
28017	BAYSIDE
28018	AMOS POINT

PRINCE EDOUARD ISLAND	
38201	BAPTIST POINT
38202	BRAE HARBOUR
38203	BRAE SHORE
38204	CAMPBELLTON
38205	CAPE WOLFE
38206	EBBSFLEET
38207	HOWARD'S COVE
38208	MIMINEGASH
38209	MIMINEGASH HARBOUR
38210	MIMINEGASH RUN
38211	O'LEARY
38212	PHEE SHORE
38213	PLEASANT VIEW
38214	ROSEVILLE
38215	SKINNER'S POND
38216	ST. LOUIS
38217	WATERFORD
38218	WEST POINT
38219	WEST CAPE
38220	LOT 7
38221	NAIL POND
38222	HOWLAN
38223	BLOOMFIELD
38224	BIRCH HILL
38225	BROCKTON
38226	BURTON
38227	CARTIER
38228	COLEMAN
38229	DE BLOIS
38230	DUNBLANE
38231	DUVAR
38232	FOREST VIEW
38233	GLENGARRY
38234	GLENWOOD
38235	HARPER ROAD
38236	HEBRON
38237	LEOVILLE
38238	MILBURN
38239	MILO
38240	NORWAY
38241	PALMER ROAD
38242	PETERVILLE
38243	PIUSVILLE
38244	ST.EDWARDS
38245	SPRINGFIELD WEST
38246	WHITES COVE
38247	WOODSTOCK
38248	BRAE

38301	ABRAMS VILLAGE
38302	BORDEN
38303	CAPE EGMONT
38304	CAPE TRAVERSE
38305	EGMONT BAY
38306	HIGGINS WHARF
38307	HIGGINS SHORE
38308	MONT CARMEL
38309	PERCIVAL RIVER
38310	SUMMERSIDE
38311	FISHING COVE
38312	ST. NICHOLAS
38313	VICTORIA WEST
38314	ST. CHRYSOSTOME
38315	BEDEQUE BAY
38316	TRAVELLER'S REST
38317	CHELTON
38318	INVERNESS
38319	MAXIMVILLE
38320	NORTH ENMORE
38321	ST.RAPHAEL
38322	WELLINGTON
38323	WILMOT
38324	MOUNT PLEASANT
38325	RICHMOND
38326	ALBANY
38327	CENTRAL BEDEQUE
38328	FREETOWN
38328	FREETOWN
38329	NORTH BEDEQUE
38330	WILMOT RIVER
38331	LOWER FREETOWN
38332	TRYON
38333	WILMOT VALLEY
38334	ENMORE RIVER
38335	DUNK RIVER
38501	ARYGLE SHORE
38502	CANOE COVE
38503	HAMPTON
38504	LONG CREEK
38505	NINE MILE CREEK
38506	RICE POINT
38507	VICTORIA
38508	WEST RIVER
38509	HILLSBOROUGH BAY
38510	NORTH RIVER
38511	ROCKY POINT
38512	FAIRVIEW

PRINCE EDOUARD ISLAND cont'd:

38514	CORNWALL
38515	ST.CATHERINES
38516	CRAPAUD
38517	BLACK POINT
38518	NEW DOMINION
38519	MEADOWBROOK
38601	ALEXANDRA
38602	BELLE RIVER
38603	CHARLOTTETOWN
38604	CHERRY VALLEY
38605	EAST AST RIVER
38606	FLAT RIVER
38607	ORWELL BAY
38608	PINETTE
38609	POINT PRIM
38610	POWNAL BAY
38611	SOUTHPORT
38612	VERNON
38613	VERNON RIVER
38614	WOOD ISLAND
38615	MACAULAYS WHARF
38616	GLENFINNAN
38617	BELFAST
38618	ELDON
38619	IONA
38620	VERNON BRIDGE
38621	ROWNAL
38622	MOUNT BUCHANAN
38623	SOUTH PINETTE
38624	BUNBURY
38625	JOHNSONS RIVER
38626	FORT AUGUSTUS (NEW CODE)
38627	MERMAID
38628	FORT AUGUSTUS (NEW CODE)
38701	BEACH POINT
38702	BRUDENELL RIVER
38703	CARDIGAN BAY
38704	DE GRAS MARCH
38705	GASPERAUX
38706	GEORGETOWN
38707	LAUNCHING
38708	LITTLE SANDS
38709	LOWER MONTAGUE
38710	MONTAGUE
38711	MURRAYHARBOUR
38712	MURRAYHARBOUR NORTH
38713	MURRAYRIVER
38714	NEWPORT
38715	PANMURE ISLAND

38717	MILL TOWN CROSS
38718	WHITE SANDS
38719	LLOYD'S CREEK
38720	GRAHAM'S POND
38721	ALBION
38722	ALLISTON
38723	BRIDGETOWN
38724	HIGH BANK
38725	PETERS ROAD
38726	ST. MARY'S ROAD
38727	ABNEY
38728	GREEK RIVER
38729	CAMBRIDGE
38730	OAK VALLEY
38731	KILMUIR
38732	WHIM ROAD
38733	CAPE BEAR
38734	POINT PLEASANT
38735	MACHON POINT
38736	GUERNSEY COVE
38737	ST. GEORGES
38738	MINK RIVER
38739	BOTTLE POINT
38740	ST.MARY'S BAY
38741	STURGEON BRIDGE
38801	SOURIS
38802	ANNANDALE
38803	BASIN HEAD
38804	BAYFIELD
38805	BIG POND
38806	BOUGHTON BAY
38807	CABLE HEAD
38808	CLEARSPRING
38809	EAST LAKE
38810	EAST POINT
38811	FORTUNE
38812	FORTUNE BRIDGE
38813	FORTUNE
38814	GOOSE RIVER
38815	HERMANVILLE
38816	HOWE BAY
38817	LITTLE POND
38818	MORELL
38819	NAUFRAGE
38820	NORTH LAKE
38821	RED HEAD
38822	ROCKBARRA
38823	ROLLO BAY
38824	SAVAGE HARBOUR

PRINCE EDOUARD ISLAND cont'd:

38826	ST.PETERS
38827	ELMIRA
38828	EAST BALTIC
38829	DINGWELL'S MILLS
38830	NORTH RIVER
38831	LITTLE HARBOUR
38832	PRIEST POND
38833	SOUTH LAKE
38834	ALBION ROSS
38835	ARMADALE
38836	ASHTON
38837	CHURCH ROAD
38838	BEAR RIVER
38839	BLACK POND
38840	BOTHWELL
38841	BRISTOL
38842	CABLE HEAD EAST
38843	CABLE HEAD WEST
38844	CAMPBELLS COVE
38845	CANAVOY
38846	CHEPSTON
38847	CHERRY HILL
38849	DUNDAS
38850	DUNDEE
38851	RED POINT
38852	FORTUNE RIVER
38853	GREENWICH
38854	GOWAN BRAE
38855	KINGSBORO
38856	LAKEVILLE
38857	LOWER ROLLO BAY
38858	MIDGELL
38859	MONTICELLO
38860	MOUNT HOPE
38861	ST.CHARLES
38862	ST.PETERS BAY
38863	ST.PETERS HARBOUR
38864	ST.PETERS LAKE
38865	SOURIS EAST
38866	SOURIS RIVER
38867	SOURIS WEST
38868	WEST ST.PETERS
38869	MORELL REAR GREEN MEADOWS
38870	SOURIS LINE ROAD
38871	DILIGENT POND
38872	BOUGHTON RIVER
38873	EGLINGTON BAY
39201	ALBERTON SOUTH
39202	BLACK BANK

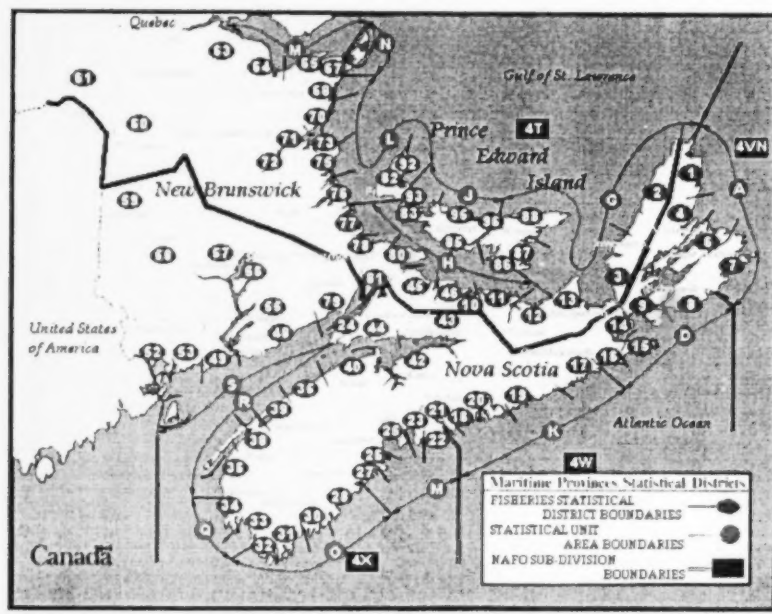
39204	CASCUMPEC BAY
39206	CASCUMPEC POINT
39207	ELMSDALE
39208	FOXLEY RIVER
39209	MILL RIVER
39210	NORTH POINT
39211	PORTAGE
39212	SEACOW POND
39213	TIGNISH
39214	TIGNISH RUN
39215	WEST DEVON
39217	KILDARE
39218	TIGNISH RIVER
39219	JUDE'S POINT
39220	ALMA
39221	ANGLO
39222	ASCENSION
39223	FORTUNE COVE
39224	GREENMOUNT
39225	ROXBURY
39226	ST.FELIX
39227	TIGNISH SHORE
39228	GOFFS BRIDGE
39229	TIGNISH HARBOUR NORTH
39301	BELMONT
39302	BIDEFORD
39303	BOYLES POINT
39304	BROOKS SHORE
39305	CONWAY
39306	DARNLEY
39307	ELLERSLIE
39308	FREELAND
39309	GRAND RIVER
39310	KENSINGTON
39311	LOT 16
39312	MALPEQUE
39313	MALPEQUE BAY
39314	MILL'S POINT
39315	MISCOUCHE
39316	PORT HILL
39317	THE NARROWS
39318	TROUT RIVER
39319	BACK SHORE
39320	MCNEILL'S MILLS
39321	HARDY'S CHANNEL
39322	TYNE VALLEY
39323	BALTIC
39324	CLERMONT
39325	EAST BIDEFORD

PRINCE EDOUARD ISLAND cont'd:	
39326	HAMILTON
39327	INDIAN RIVER
39328	LENNOX ISLAND
39329	LENNOX ISLAND
39330	NEW ANNAN
39331	POPLAR GROVE
39332	ST.ELEANORS
39333	SPRING VALLEY
39334	BENTICK COVE
39335	SEAVIEW NOW
39336	STAVERTS SHORE
39337	ELLIS RIVER
39338	BROOKS WHARF
39339	NORTHAM
39340	MILLIGAN'S WHARF
39341	CONWAY NARROWS
39501	ANGLO RUSTICO
39502	BAY VIEW
39503	FRENCH RIVER
39504	NORTH RUSTICO
39505	PARKCORNER
39506	SEAVIEW
39507	STANLEY BRIDGE
39508	BRACKLEY BEACH
39509	RUSTICO BAY
39510	NEW LONDON
39511	SOUTH RUSTICO
39512	RUSTICO
39513	MURPHY'S SHORE
39514	OYSTER BED BRIDGE
39515	RUSTICOVILLE
39516	HUNTER RIVER
39517	BREADALBANE
39518	MARGATE
39519	SPRING BROOK
39520	CAVENDISH
39521	NEW LONDON BAY
39522	FRENCH RIVER NORTH
39601	BEDFORD
39602	COVEHEAD
39603	AUGUSTUS
39604	MILL COVE
39605	STANHOPE
39606	TRACADIE
39607	MOUNT STEWART
39608	GRAND TRACADIE
39609	DALVEY BEACH
39610	URBAN BAND
39611	HARRINGTON

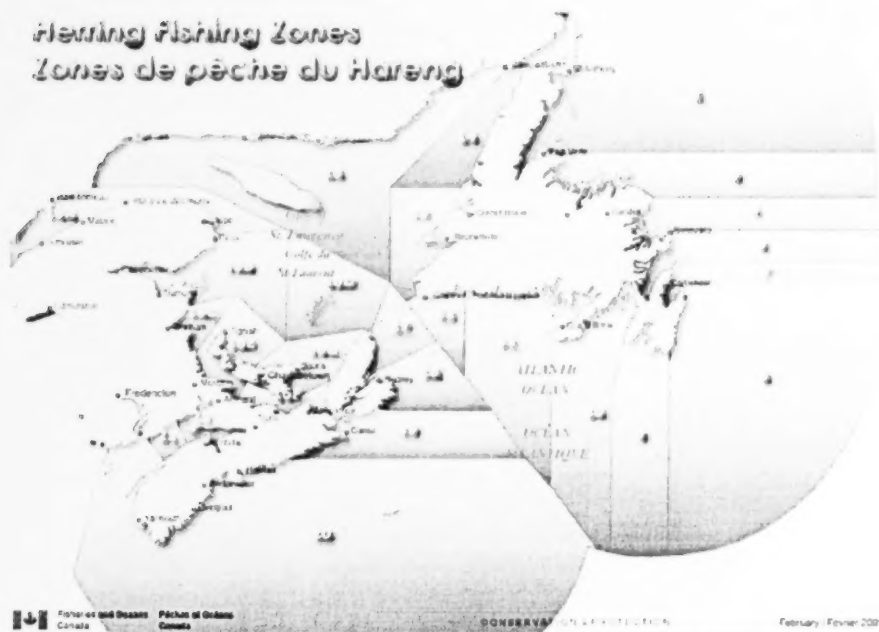
39613	PLEASANT GROVE
39614	ST.ANDREWS
39615	YORK
39616	SHERWOOD
39617	WEST COVE HEAD
39618	TEN MILE HOUSE
39619	WINSLOE
39620	PARKDALE
39621	MARSHFIELD

Appendix VIII: Charts of community districts and fishing zones.

i. Statistical districts:

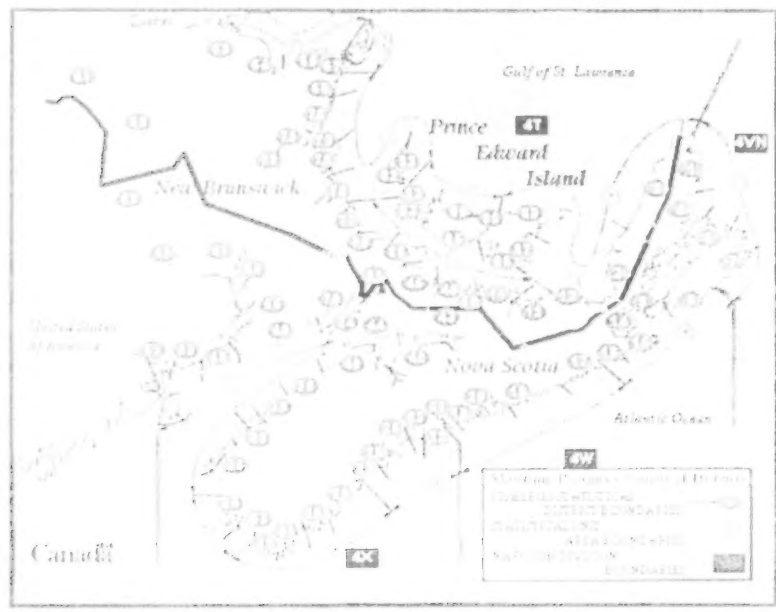


ii. Herring fishing area map:



Appendix VIII: Charts of community districts and fishing zones.

i. Statistical districts:



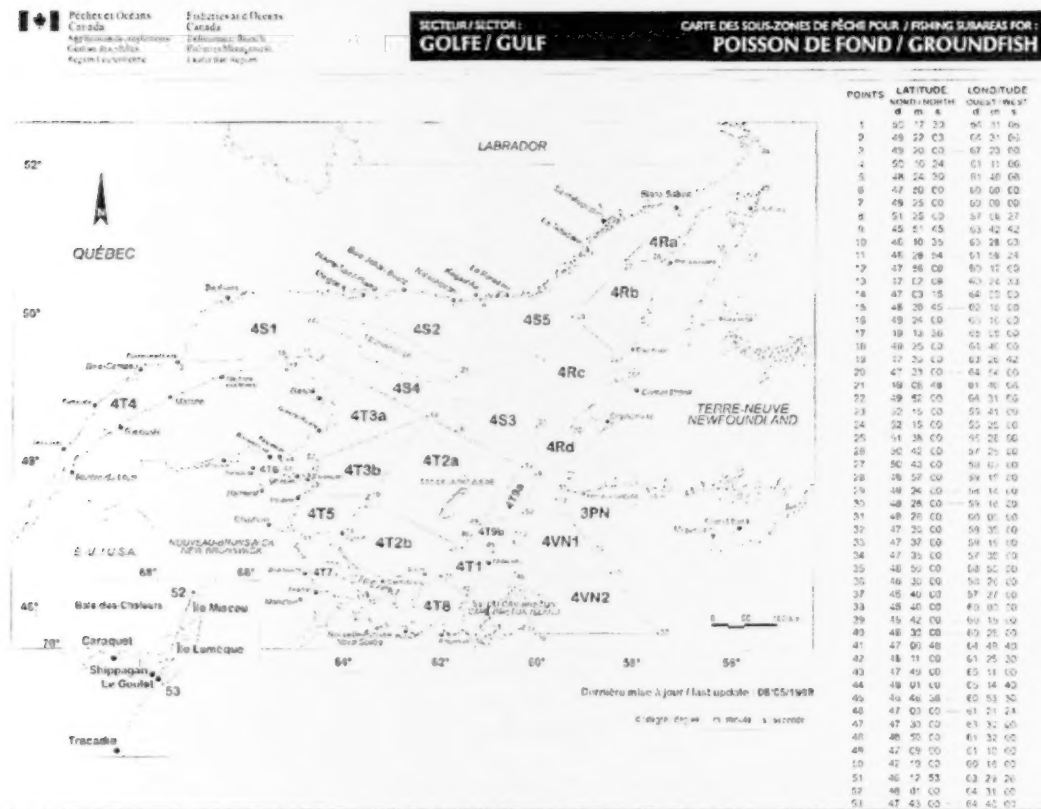
ii. Herring fishing area map:

Herring Fishing Area
 Date: 10/10/2010



Appendix VIII cont'd:

iii. Groundfish fishing subareas:



Appendix IX: Standard abbreviations and codes for fishing gears

<u>Gear categories</u>	<u>Abbreviations</u>	<u>Gear codes</u>
Trawls:		
Bottom beam trawl	TBB	18
“ otter trawl (side or stern not specified)	OTB	10
“ otter trawl (side)	OTB1	11
“ otter trawl (stern)	OTB2	12
“ pair trawl (2 vessels)	PTB	16
Midwater otter trawl (side or stern not specified)	OTM	13
“ otter trawl (side)	OTM1	14
“ otter trawl (stern)	OTM2	15
“ pair trawl (2 vessels)	PTM	17
Shrimp trawl	ST	73
Seine Nets :		
Beach seine	BS	24
Danish seine	SDN	21
Scottish seine	SSC	22
Pair seine (2 vessels)	SPR	23
Unspecified	SN	20
Surrounding Nets:		
With Purse lines (purse seine)	PS	31
- operated by one vessel	PS1	32
- operated by two vessels	PS2	33
Without purse lines (lampara)	LA	34
Gillnets and Entangling Nets:		
Gillnets (not specified)	GN	40
Set gillnets (anchored)	GNS	41
Drift gillnets	GND	42
Fixed gillnets	GNF	43
Trammel nets	GTR	44
Hooks and lines:		
Longlines (not specified)	LL	50
Set longlines	LLS	51
Drift longlines	LLD	52
Handlines and polelines (hand operated)	LHP	53
Handlines and polelines (mechanized)	LHM	55
Trolling lines	LTL	54
Hooks and lines (not specified)	LX	59
Traps:		
Traps (not specified)	FIX	60
Stationary uncovered poundnets	FPN	61
Covered pots	FPO	62
Fyke nets	FYK	62
Barriers, fences, weirs, etc	FWR	63

Appendix IX cont'd:

<u>Gear categories</u>	<u>Abbreviations</u>	<u>Gear codes</u>
Cast nets	FCN	66
Falling gear (unspecified)	FG	67
Dredges:		
Boat operated	DRB	71
Hand operated	DRH	72
Grappling and Wounding:		
Harpoon	HAR	81
Miscellaneous gear	MIS	90
Falling gear:		
Gear not known	NK	99

**Appendix X: Conversion of dorsal fin (DL1) to total length (TL) for Atlantic cod
(*Gadus morhua*)**

DL1	TL	DL1	TL
14	20	41	57
15	21	42	59
16	22	63	60
17	24	44	61
18	25	45	63
19	27	46	64
20	28	47	66
21	29	48	67
22	31	49	68
23	32	50	70
24	34	51	71
25	35	52	73
26	36	53	74
27	38	54	75
28	39	55	77
29	41	56	78
30	42	57	80
31	43	58	81
32	45	59	82
33	46	60	84
34	48		
35	49		
36	50		
37	52		
38	53		
39	55		
40	56		

Appendix X (cont'd): Conversion of 1st dorsal length (DL1) to total length (TL) for
White Hake. (20/02/89 from T. Hurlbut)

$$TL = -0.24 + 1.3 \times DL1 \text{ (n=225, } r^2=0.91)$$

DL1	TL	DL1	TL
30	39	61	79
31	40	62	80
32	41	63	82
33	43	64	83
34	44	65	84
35	45	66	86
36	47	67	87
37	48	68	88
38	49	69	89
39	50	70	91
40	52	71	92
41	53	72	93
42	54	73	95
43	56	74	96
44	57	75	97
45	58	76	99
46	60	77	100
47	61	78	101
48	62	79	102
49	63	80	104
50	65	81	105
51	66	82	106
52	67	83	108
53	69	84	109
54	70	85	110
55	71	86	112
56	73	87	113
57	74	88	114
58	75	89	115
59	76	90	117
60	78		

**Appendix X (cont'd): Conversion of bobtail length (B1) to total length (TL)
for Plaice.(Measure from head to end of anal fin)**

B1	TL
21	28
22	29
23	31
24	32
25	33
26	34
27	36
28	37
29	38
30	40
31	41
32	42
33	43
34	45
35	46
36	47
37	49
38	50
39	51
40	52
41	54
42	55
43	56
44	57
45	59
46	60
47	61
48	63
49	64
50	65





